



Joseph E. Kernan  
Governor

Lori F. Kaplan  
Commissioner

100 North Senate Avenue  
P.O. Box 6015  
Indianapolis, Indiana 46206-6015  
(317) 232-8603  
(800) 451-6027  
[www.in.gov/idem](http://www.in.gov/idem)

## **NOTICE OF 30-DAY PERIOD FOR PUBLIC COMMENT**

### **Preliminary Findings Regarding a Prevention of Significant Deterioration (PSD) Permit and Part 70 Operating Permit**

**for Casting Service in LaPorte County**

**Part 70 No.: 091-6141-00018**

The Indiana Department of Environmental Management (IDEM) has received an application from Casting Service located at 300 Philadelphia Street, LaPorte, Indiana for a combined construction and operation permit under the Prevention of Significant Deterioration (PSD) program (326 IAC 2-2) and Part 70 Operating Permit, also called a Title V Permit. IDEM's Office of Air Quality (OAQ), issues this type of permit to regulate the construction and operation of sources that will emit relatively large amounts of air pollution. It requires the use of Best Available Control Technology and an analysis demonstrating that U.S. EPA health-based standards will not be violated. This type of permit combines all of the requirements for controlling air pollution into one permit for the source, and requires the source to test equipment and keep records to ensure that the facility is following the requirements for controlling air pollution.

IDEM has reviewed this application, and has developed preliminary findings, consisting of a draft permit and several supporting documents, that would allow Casting Service to operate a gray and ductile iron foundry. If it would operate 365 days a year, 7 days a week, 24 hours a day, at maximum capacity without controls, it could release a maximum of 4,340 tons of PM per year, 1,209 tons of PM10 per year, 2.2 tons of SO2 per year, 36 tons of NOx per year, 290 tons of VOC per year, 30 tons of CO per year, 155 tons of combined HAPs per year, and 25 tons of a single HAP per year. However, the PSD permit will limit emissions to less than 172 tons of PM per year, 83 tons of PM10 per year, 1.6 tons of SO2 per year, 36 tons of NOx per year, 229 tons of VOC per year, 30 tons of CO per year, 84 tons of combined HAPs per year, and 24.5 tons of any single HAP per year. The permit requires production limits and the use of air pollution control equipment to limit the amount of air pollution that can be released.

This draft PSD permit and Part 70 operating permit does not contain any new equipment that would emit air pollutants; however, some conditions from previously issued permits/approvals have been corrected, changed, or removed. This notice fulfills the public notice procedures to which those conditions are subject.

IDEM is aware that some equipment has been constructed and operated prior to receipt of the proper permit. IDEM is reviewing this matter and will take appropriate action. This draft PSD permit and Title V operating permit contains provisions to bring unpermitted equipment into compliance with construction permit rules.

The air quality analysis included with the preliminary findings demonstrates compliance with all air quality standards.

A copy of the permit application and IDEM's preliminary findings are available at:

**LaPorte County Public Library  
904 Indiana Avenue  
LaPorte, Indiana 46350-3407**

**And**

**IDEM Northwest Regional Office  
8315 Virginia Street, Suite 1  
Merrillville, Indiana 46410-9201**

A copy of the preliminary findings is available on the Internet at: [www.IN.gov/idem/air/permits/Air-Permits-Online](http://www.IN.gov/idem/air/permits/Air-Permits-Online).

### **How can you participate in this process?**

The day after this announcement is published in a newspaper marks the beginning of a 30-day public comment period. During that 30-day period, you may comment on this draft permit. If the 30<sup>th</sup> day of the comment period falls on a day when IDEM offices are closed for business, all comments must be postmarked or delivered in person on the next business day that IDEM is open.

You may request that IDEM hold a public hearing about this draft permit. If adverse comments concerning the **air pollution impact** of this draft permit are received, with a request for a public hearing, IDEM may hold a public hearing. If a public hearing is held, IDEM will make a separate announcement of the date, time, and location of that hearing. At a hearing, you would have an opportunity to submit written comments, make verbal comments, ask questions, and discuss any air pollution concerns with IDEM staff.

Comments and supporting documentation or a request for a public hearing should be sent in writing to IDEM. If you do not want to comment at this time, but would like to be added to IDEM's mailing list to receive notice of future action related to this permit application, please contact IDEM. Please refer to permit number **T091-6141-00018** in all correspondence.

### **To Contact IDEM:**

Trish Earls  
IDEM, Office of Air Quality  
100 North Senate Avenue  
P.O. Box 6015  
Indianapolis, Indiana 46206-6015  
(800) 451-6027, ask for extension 3-6878  
Or dial directly: (973) 575-2555, ext. 3219  
E-mail: [tearls@enviroplan.com](mailto:tearls@enviroplan.com)

All written comments will be considered by IDEM when we make a decision to issue or deny the permit. Comments that are most likely to affect final permit decisions are those based on the rules and laws governing this permitting process (326 IAC 2), air quality issues, and technical issues. IDEM does not have legal authority to regulate zoning, odor or noise. For such issues, please contact your local officials.

### **What will happen after IDEM makes a decision?**

Following the end of the public comment period, IDEM will issue a Notice of Decision stating whether the permit has been issued or denied. If the permit is issued, it may be different than the draft permit because of comments that were received during the public comment period. If comments are received during the public notice period, the final decision will include a document that summarizes the comments and IDEM's response to those comments. If you have submitted comments or have asked to be added to the mailing list, you will receive a Notice of the Decision. The notice will provide details on how you may appeal IDEM's decision, if you disagree with that decision. The final decision will also be available on the Internet at the address indicated above, at the local library indicated above, and the IDEM public file room on the 12<sup>th</sup> floor of the Indiana Government Center North, 100 N. Senate, Indianapolis and IDEM Northwest Regional Office, 8315 Virginia Street, Suite 1, Merrillville, Indiana.

If you have any questions please contact Trish Earls of my staff at the above address.

Paul Dubenetzky, Chief  
Permits Branch  
Office of Air Quality

For additional information about air permits and how you can participate, please see IDEM's **Guide for Citizen Participation** and **Permit Guide** on the Internet at: [www.IN.gov/idem/guides](http://www.IN.gov/idem/guides).

TE/EVP



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DRAFT

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## PREVENTION OF SIGNIFICANT DETERIORATION (PSD) PERMIT and PART 70 OPERATING PERMIT OFFICE OF AIR QUALITY

Casting Service  
300 Philadelphia Street  
LaPorte, Indiana 46350

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

**The Permittee must comply with all conditions of this permit. Noncompliance with any provisions of this permit is grounds for enforcement action; permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. Noncompliance with any provision of this permit, except any provision specifically designated as not federally enforceable, constitutes a violation of the Clean Air Act. It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. An emergency does constitute an affirmative defense in an enforcement action provided the Permittee complies with the applicable requirements set forth in Section B, Emergency Provisions.**

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17. This permit also addresses certain new source review requirements for existing equipment and is intended to fulfill the new source review procedures pursuant to 326 IAC 2-2 and 326 IAC 2-7-10.5, applicable to those conditions.

Operation Permit No.: T091-6141-00018	
Issued by: Janet G. McCabe, Assistant Commissioner Office of Air Quality	Issuance Date:  Expiration Date:

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## SECTION A

## SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

### A.1 General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)] [326 IAC 2-7-1(22)]

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The Permittee owns and operates a stationary gray and ductile iron foundry.

Responsible Official:	President
Source Address:	300 Philadelphia Street, LaPorte, Indiana 46350
Mailing Address:	300 Philadelphia Street, LaPorte, Indiana 46350
General Source Phone Number:	(219) 362-1000
SIC Code:	3321
County Location:	LaPorte
Source Location Status:	Nonattainment for 8-hour ozone standard Attainment for all other criteria pollutants
Source Status:	Part 70 Permit Program Major Source, under PSD Rules and Nonattainment NSR; Major Source, Section 112 of the Clean Air Act 1 of 28 Source Categories

### A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

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This stationary source consists of the following emission units and pollution control devices:

- (a) one (1) electric induction furnace, referred to as F1, constructed in 1977, with a maximum capacity of 1.67 tons of iron per hour, with emissions controlled by the melt shop dust collector, referred to as C06, and exhausting to stack S06;
- (b) one (1) electric induction furnace, referred to as F2, constructed in 1982, with a maximum capacity of 2.92 tons of iron per hour, with emissions controlled by the melt shop dust collector, referred to as C06, and exhausting to stack S06;
- (c) one (1) electric induction furnace, referred to as F3, constructed in 1982, with a maximum capacity of 2.92 tons of iron per hour, with emissions controlled by the melt shop dust collector, referred to as C06, and exhausting to stack S06;
- (d) one (1) electric induction furnace, referred to as F4, constructed in 1985, with a maximum capacity of 2.92 tons of iron per hour, with emissions controlled by the melt shop dust collector, referred to as C06, and exhausting to stack S06;
- (e) one (1) electric induction furnace, referred to as F5, constructed in 1990, with a maximum capacity of 3.33 tons of iron per hour, with emissions controlled by the melt shop dust collector, referred to as C06, and exhausting to stack S06;

- (f) one (1) scrap and charge handling process, referred to as process P01, constructed prior to 1972, with a maximum capacity of 13.76 tons of metal per hour, with emissions controlled by the melt shop dust collector, referred to as C06 and exhausting to stack S06;
- (g) one (1) natural gas-fired scrap preheater, referred to as emission unit P02, constructed in 1996, with a maximum heat input capacity of 17.8 million Btu per hour, with emissions uncontrolled and exhausting to stack S12;
- (h) one (1) inoculation process, referred to as process P04, constructed prior to 1972, with a maximum capacity of 13.76 tons of metal per hour, consisting of two methods of operation described as follows:
  - (1) Inoculation is periodically done in the furnace before discharge. Emissions are controlled by the melt shop dust collector, referred to as C06, exhausting to stack S06.
  - (2) Inoculation is generally done in molten metal transfer ladles, where emissions are currently uncontrolled and exhaust through Vent 24.

Note: Casting Service will re-direct inoculation emissions exhausting through Vent 24 to the melt shop dust collector, C06, within six (6) months after issuance of the Part 70 permit.
- (i) one (1) pouring and casting operation, referred to as process P06, and one (1) castings cooling operation, referred to as process P07, both constructed prior to 1972, with a maximum combined capacity of 13.76 tons of metal per hour and 68.8 tons of sand per hour, with emissions uncontrolled and exhausting inside the building;
- (j) one (1) magnesium treatment process station using wire injection, referred to as process P05a, constructed in 1998, with a maximum capacity of 13.76 tons of iron per hour, with emissions controlled by dust collector C14, and exhausting to stack S14;
- (k) one (1) magnesium treatment process station using wire injection, referred to as process P05b, constructed in 1994, with a maximum capacity of 13.76 tons of metal per hour, with emissions controlled by dust collector C09, exhausting to stack S09;
- (l) expendable pattern casting, referred to as process P08, constructed in 1978, with a maximum capacity of 68.75 pounds of foam per hour, with emissions uncontrolled and exhausting inside the building;
- (m) One (1) shakeout system, consisting of the following:
  - (1) one (1) high bay shakeout system, referred to as process P09a, constructed in 1991, with a maximum throughput capacity of 13.76 tons of metal per hour and 68.8 tons of sand per hour, with emissions controlled by the high bay shakeout dust collector, referred to as C01, and exhausting to stack S01;
  - (2) one (1) center bay shakeout system, referred to as process P09b, constructed in 1990, with a maximum throughput capacity of 13.76 tons of metal per hour and 68.8 tons of sand per hour, with emissions controlled by the center bay shakeout dust collector, referred to as C02, and exhausting to stack S02;

- (n) one (1) mechanical reclamation system, referred to as process P10, constructed in 1991 and modified in 1999, with a maximum capacity of 68.8 tons of sand per hour, including one (1) Didion rotary lump crusher and one (1) rotoconditioner with emissions controlled by the mechanical reclaim dust collector, referred to as C04, and exhausting to stack S04;
- (o) two (2) pneumatic sand transporters for the mechanical reclamation system, constructed in 1999, each with a maximum capacity of 15 tons of sand per hour, with emissions controlled by dust collector C05, exhausting to stack S05;
- (p) one (1) thermal sand reclamation system including a natural gas-fired calcining unit, with a maximum heat input capacity of 6.0 million British thermal units (MMBtu) per hour, referred to as process P11, constructed in 1991, with a maximum capacity of 6.0 tons of sand per hour, with emissions controlled by the thermal dust collector, referred to as C05, and exhausting to stack S05;
- (q) Shotblasting operation consisting of the following:
  - (1) one (1) pneumatic room blast operation, referred to as process P12a, constructed prior to 1972, with a maximum capacity of 1.376 tons of metal per hour, with emissions controlled by the room blast dust collector, referred to as C09, and exhausting through stack S09;
  - (2) two (2) small shotblast machines, referred to as small castings blasters, constructed prior to 1972, and BCP shot blast, constructed in 1991, referred to as process P12b, with a maximum combined capacity of 13.76 tons of metal per hour, with emissions controlled by the blast operations dust collector, referred to as C03, and exhausting to stack S03;
- (r) cleaning and grinding operations, referred to as process P13, constructed prior to 1972 and modified in 2001, with a maximum capacity of 13.76 tons of metal per hour, consisting of two (2) grinding areas with emissions from one (1) area controlled by a dust collector, referred to as C15, exhausting to stack S15, and emissions from the other area controlled by a dust collector, referred to as C07, exhausting to stack S07;
- (s) casting painting operation, referred to as process P14, utilizing air atomization spray, constructed in 1975, using a maximum of 7.25 pounds of coating per hour and 2.0 pounds of thinner per hour, with a dry filter for overspray control, and emissions exhausting to stack S11;
- (t) mold making operations, referred to as process P16, constructed prior to 1972, using phenolic no-bake and phenolic urethane no-bake binder systems with a maximum capacity of 68.8 tons of sand per hour, with emissions uncontrolled and exhausting inside the building;
- (u) core making operations, referred to as process P17, constructed prior to 1972 and modified in 1985, using phenolic no-bake, furan no-bake, and SO<sub>2</sub> binder systems with a maximum capacity of 68.8 tons of sand per hour, with SO<sub>2</sub> emissions controlled by a packed tower scrubber, referred to as C10, which exhausts to stack S10, and with particulate emissions controlled by the core room dust collector, referred to as C08, exhausting to stack S08;

Note: The SO<sub>2</sub> scrubber is voluntarily installed and operated.

- (v) core and mold refractory wash coating operation, constructed prior to 1972, referred to as process P18, utilizing dip and flow coating, with emissions exhausting to stack S13;

- (w) one (1) pattern repair shop, referred to as process P20, constructed prior to 1972, including woodworking equipment for routine maintenance and repair of wood patterns, with emissions controlled by a dust collector, referred to as C07, and exhausting to stack S07; and
- (x) pattern and core box release agent coating operation, referred to as process P20a, utilizing air atomization spray, constructed prior to 1972, with emissions exhausting inside the building.

A.3 Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-7-4(c)]  
[326 IAC 2-7-5(15)]

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This stationary source also includes the following insignificant activities which are specifically regulated, as defined in 326 IAC 2-7-1(21):

- (a) Degreasing operations that do not exceed 145 gallons per 12 months, except if subject to 326 IAC 20-6: one (1) Safety Kleen maintenance parts washer with a remote solvent reservoir. [326 IAC 8-3-2]
- (b) The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, welding equipment. [326 IAC 6-3-2]
- (c) Grinding and machining operations controlled with fabric filters, scrubbers, mist collectors, wet collectors and electrostatic precipitators with a design grain loading of less than or equal to 0.03 grains per actual cubic foot and a gas flow rate less than or equal to 4000 actual cubic feet per minute, including the following: deburring; buffing; polishing; abrasive blasting; pneumatic conveying; and woodworking operations. [326 IAC 6-3-2]

A.4 Part 70 Permit Applicability [326 IAC 2-7-2]

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This stationary source is required to have a Part 70 permit by 326 IAC 2-7-2 (Applicability) because:

- (a) It is a major source, as defined in 326 IAC 2-7-1(22);
- (b) It is a source in a source category designated by the United States Environmental Protection Agency (U.S. EPA) under 40 CFR 70.3 (Part 70 - Applicability).

**SECTION B**

**GENERAL CONDITIONS**

**B.1 Definitions [326 IAC 2-7-1]**

Terms in this permit shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, the applicable definitions found in the statutes or regulations (IC 13-11, 326 IAC 1-2 and 326 IAC 2-7) shall prevail.

**B.2 Permit Term [326 IAC 2-7-5(2)] [326 IAC 2-1.1-9.5]**

This permit is issued for a fixed term of five (5) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions, modifications, or amendments of this permit do not affect the expiration date of this permit.

**B.3 Enforceability [326 IAC 2-7-7]**

Unless otherwise stated, all terms and conditions in this permit, including any provisions designed to limit the source's potential to emit, are enforceable by IDEM, the United States Environmental Protection Agency (U.S. EPA) and by citizens in accordance with the Clean Air Act.

**B.4 Termination of Right to Operate [326 IAC 2-7-10] [326 IAC 2-7-4(a)]**

The Permittee's right to operate this source terminates with the expiration of this permit unless a timely and complete renewal application is submitted at least nine (9) months prior to the date of expiration of the source's existing permit, consistent with 326 IAC 2-7-3 and 326 IAC 2-7-4(a).

**B.5 Severability [326 IAC 2-7-5(5)]**

The provisions of this permit are severable; a determination that any portion of this permit is invalid shall not affect the validity of the remainder of the permit.

**B.6 Property Rights or Exclusive Privilege [326 IAC 2-7-5(6)(D)]**

This permit does not convey any property rights of any sort or any exclusive privilege.

**B.7 Duty to Provide Information [326 IAC 2-7-5(6)(E)]**

- (a) The Permittee shall furnish to IDEM, OAQ, within a reasonable time, any information that IDEM, OAQ, may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The submittal by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34). Upon request, the Permittee shall also furnish to IDEM, OAQ, copies of records required to be kept by this permit.
- (b) For information furnished by the Permittee to IDEM, OAQ, the Permittee may include a claim of confidentiality in accordance with 326 IAC 17.1. When furnishing copies of requested records directly to U. S. EPA, the Permittee may assert a claim of confidentiality in accordance with 40 CFR 2, Subpart B.

**B.8 Certification [326 IAC 2-7-4(f)] [326 IAC 2-7-6(1)] [326 IAC 2-7-5(3)(C)]**

- (a) Where specifically designated by this permit or required by an applicable requirement, any application form, report, or compliance certification submitted shall contain certification by a responsible official of truth, accuracy, and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.
- (b) One (1) certification shall be included, using the attached Certification Form, with each submittal requiring certification. One (1) certification may cover multiple forms in one (1) submittal.
- (c) A responsible official is defined at 326 IAC 2-7-1(34).

B.9 Annual Compliance Certification [326 IAC 2-7-6(5)]

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- (a) The Permittee shall annually submit a compliance certification report which addresses the status of the source's compliance with the terms and conditions contained in this permit, including emission limitations, standards, or work practices. The initial certification shall cover the time period from the date of final permit issuance through December 31 of the same year. All subsequent certifications shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted in letter form no later than July 1 of each year to:

Indiana Department of Environmental Management  
Compliance Branch, Office of Air Quality  
100 North Senate Avenue, P. O. Box 6015  
Indianapolis, Indiana 46206-6015

and

United States Environmental Protection Agency, Region V  
Air and Radiation Division, Air Enforcement Branch - Indiana (AE-17J)  
77 West Jackson Boulevard  
Chicago, Illinois 60604-3590

- (b) The annual compliance certification report required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.
- (c) The annual compliance certification report shall include the following:
- (1) The appropriate identification of each term or condition of this permit that is the basis of the certification;
  - (2) The compliance status;
  - (3) Whether compliance was continuous or intermittent;
  - (4) The methods used for determining the compliance status of the source, currently and over the reporting period consistent with 326 IAC 2-7-5(3); and
  - (5) Such other facts, as specified in Sections D of this permit, as IDEM, OAQ, may require to determine the compliance status of the source.

The submittal by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

B.10 Preventive Maintenance Plan [326 IAC 2-7-5(1),(3) and (13)] [326 IAC 2-7-6(1) and (6)]  
[326 IAC 1-6-3]

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- (a) If required by specific condition(s) in Section D of this permit, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) within ninety (90) days after issuance of this permit, including the following information on each facility:
- (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;
  - (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and

- (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

If, due to circumstances beyond the Permittee's control, the PMPs cannot be prepared and maintained within the above time frame, the Permittee may extend the date an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management  
Compliance Branch, Office of Air Quality  
100 North Senate Avenue, P. O. Box 6015  
Indianapolis, Indiana 46206-6015

The PMP extension notification does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

- (b) The Permittee shall implement the PMPs, including any required record keeping as necessary to ensure that failure to implement a PMP does not cause or contribute to an exceedance of any limitation on emissions or potential to emit.
- (c) A copy of the PMPs shall be submitted to IDEM, OAQ, upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ, may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions or potential to emit. The PMP does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).
- (d) To the extent the Permittee is required by 40 CFR Part 60/63 to have an Operation Maintenance, and Monitoring (OMM) Plan for a unit, such Plan is deemed to satisfy the PMP requirements of 326 IAC 1-6-3 for that unit.

**B.11 Emergency Provisions [326 IAC 2-7-16]**

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- (a) An emergency, as defined in 326 IAC 2-7-1(12), is not an affirmative defense for an action brought for noncompliance with a federal or state health-based emission limitation.
- (b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a technology-based emission limitation if the affirmative defense of an emergency is demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that describe the following:
- (1) An emergency occurred and the Permittee can, to the extent possible, identify the causes of the emergency;
- (2) The permitted facility was at the time being properly operated;
- (3) During the period of an emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit;
- (4) For each emergency lasting one (1) hour or more, the Permittee notified IDEM, OAQ, and IDEM Northwest Regional Office within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

Telephone Number: 1-800-451-6027 (ask for Office of Air Quality, Compliance Section), or

Telephone Number: 317-233-5674 (ask for Compliance Section)  
Facsimile Number: 317-233-5967

and

IDEM Northwest Regional Office  
Telephone Number: 1-888-209-8892 or  
Telephone Number: 219-757-0265  
Facsimile Number: 219-757-0267

- (5) For each emergency lasting one (1) hour or more, the Permittee submitted the attached Emergency Occurrence Report Form or its equivalent, either by mail or facsimile to:

Indiana Department of Environmental Management  
Compliance Branch, Office of Air Quality  
100 North Senate Avenue, P. O. Box 6015  
Indianapolis, Indiana 46206-6015

within two (2) working days of the time when emission limitations were exceeded due to the emergency.

The notice fulfills the requirement of 326 IAC 2-7-5(3)(C)(ii) and must contain the following:

- (A) A description of the emergency;
- (B) Any steps taken to mitigate the emissions; and
- (C) Corrective actions taken.

The notification which shall be submitted by the Permittee does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

- (6) The Permittee immediately took all reasonable steps to correct the emergency.
- (c) In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.
  - (d) This emergency provision supersedes 326 IAC 1-6 (Malfunctions). This permit condition is in addition to any emergency or upset provision contained in any applicable requirement.
  - (e) IDEM, OAQ, may require that the Preventive Maintenance Plans required under 326 IAC 2-7-4(c)(9) be revised in response to an emergency.
  - (f) Failure to notify IDEM, OAQ, by telephone or facsimile of an emergency lasting more than one (1) hour in accordance with (b)(4) and (5) of this condition shall constitute a violation of 326 IAC 2-7 and any other applicable rules.
  - (g) If the emergency situation causes a deviation from a technology-based limit, the Permittee may continue to operate the affected emitting facilities during the emergency provided the Permittee immediately takes all reasonable steps to correct the emergency and minimize emissions.



- (h) The Permittee shall include all emergencies in the Quarterly Deviation and Compliance Monitoring Report.

**B.12 Permit Shield [326 IAC 2-7-15] [326 IAC 2-7-20] [326 IAC 2-7-12]**

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- (a) Pursuant to 326 IAC 2-7-15, the Permittee has been granted a permit shield. The permit shield provides that compliance with the conditions of this permit shall be deemed in compliance with any applicable requirements as of the date of permit issuance, provided that either the applicable requirements are included and specifically identified in this permit or the permit contains an explicit determination or concise summary of a determination that other specifically identified requirements are not applicable. The Indiana statutes from IC 13 and rules from 326 IAC, referenced in conditions in this permit, are those applicable at the time the permit was issued. The issuance or possession of this permit shall not alone constitute a defense against an alleged violation of any law, regulation or standard, except for the requirement to obtain a Part 70 permit under 326 IAC 2-7 or for applicable requirements for which a permit shield has been granted.

This permit shield does not extend to applicable requirements which are promulgated after the date of issuance of this permit unless this permit has been modified to reflect such new requirements.

- (b) If, after issuance of this permit, it is determined that the permit is in nonconformance with an applicable requirement that applied to the source on the date of permit issuance, IDEM, OAQ, shall immediately take steps to reopen and revise this permit and issue a compliance order to the Permittee to ensure expeditious compliance with the applicable requirement until the permit is reissued. The permit shield shall continue in effect so long as the Permittee is in compliance with the compliance order.
- (c) No permit shield shall apply to any permit term or condition that is determined after issuance of this permit to have been based on erroneous information supplied in the permit application. Erroneous information means information that the Permittee knew to be false, or in the exercise of reasonable care should have been known to be false, at the time the information was submitted.
- (d) Nothing in 326 IAC 2-7-15 or in this permit shall alter or affect the following:
- (1) The provisions of Section 303 of the Clean Air Act (emergency orders), including the authority of the U.S. EPA under Section 303 of the Clean Air Act;
  - (2) The liability of the Permittee for any violation of applicable requirements prior to or at the time of this permit's issuance;
  - (3) The applicable requirements of the acid rain program, consistent with Section 408(a) of the Clean Air Act; and
  - (4) The ability of U.S. EPA to obtain information from the Permittee under Section 114 of the Clean Air Act.
- (e) This permit shield is not applicable to any change made under 326 IAC 2-7-20(b)(2) (Sections 502(b)(10) of the Clean Air Act changes) and 326 IAC 2-7-20(c)(2) (trading based on State Implementation Plan (SIP) provisions).
- (f) This permit shield is not applicable to modifications eligible for group processing until after IDEM, OAQ, has issued the modifications. [326 IAC 2-7-12(c)(7)]

- (g) This permit shield is not applicable to minor Part 70 permit modifications until after IDEM, OAQ, has issued the modification. [326 IAC 2-7-12(b)(8)]

**B.13 Prior Permits Superseded [326 IAC 2-1.1-9.5]**

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- (a) All terms and conditions of previous permits issued pursuant to permitting programs approved into the state implementation plan have been either

- (1) incorporated as originally stated,
- (2) revised, or
- (3) deleted

by this permit.

- (b) All previous registrations and permits are superseded by this permit.

**B.14 Deviations from Permit Requirements and Conditions [326 IAC 2-7-5(3)(C)(ii)]**

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- (a) Deviations from any permit requirements (for emergencies see Section B - Emergency Provisions), the probable cause of such deviations, and any response steps or preventive measures taken shall be reported to:

Indiana Department of Environmental Management  
Compliance Data Section, Office of Air Quality  
100 North Senate Avenue, P.O. Box 6015  
Indianapolis, Indiana 46206-6015

using the attached Quarterly Deviation and Compliance Monitoring Report, or its equivalent. A deviation required to be reported pursuant to an applicable requirement that exists independent of this permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report.

The Quarterly Deviation and Compliance Monitoring Report does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

- (b) A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit.

**B.15 Permit Modification, Reopening, Revocation and Reissuance, or Termination [326 IAC 2-7-5(6)(C)] [326 IAC 2-7-8(a)] [326 IAC 2-7-9]**

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- (a) This permit may be modified, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a Part 70 permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any condition of this permit. [326 IAC 2-7-5(6)(C)] The notification by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

- (b) This permit shall be reopened and revised under any of the circumstances listed in IC 13-15-7-2 or if IDEM, OAQ, determines any of the following:

- (1) That this permit contains a material mistake.
- (2) That inaccurate statements were made in establishing the emissions standards or other terms or conditions.

- (3) That this permit must be revised or revoked to assure compliance with an applicable requirement. [326 IAC 2-7-9(a)(3)]
- (c) Proceedings by IDEM, OAQ, to reopen and revise this permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of this permit for which cause to reopen exists. Such reopening and revision shall be made as expeditiously as practicable. [326 IAC 2-7-9(b)]
- (d) The reopening and revision of this permit, under 326 IAC 2-7-9(a), shall not be initiated before notice of such intent is provided to the Permittee by IDEM, OAQ, at least thirty (30) days in advance of the date this permit is to be reopened, except that IDEM, OAQ, may provide a shorter time period in the case of an emergency. [326 IAC 2-7-9(c)]

**B.16 Permit Renewal [326 IAC 2-7-3] [326 IAC 2-7-4]**

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- (a) The application for renewal shall be submitted using the application form or forms prescribed by IDEM, OAQ, and shall include the information specified in 326 IAC 2-7-4. Such information shall be included in the application for each emission unit at this source, except those emission units included on the trivial or insignificant activities list contained in 326 IAC 2-7-1(21) and 326 IAC 2-7-1(40). The renewal application does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

Request for renewal shall be submitted to:

Indiana Department of Environmental Management  
Permits Branch, Office of Air Quality  
100 North Senate Avenue, P.O. Box 6015  
Indianapolis, Indiana 46206-6015

- (b) Timely Submittal of Permit Renewal [326 IAC 2-7-4(a)(1)(D)]
  - (1) A timely renewal application is one that is:
    - (A) Submitted at least nine (9) months prior to the date of the expiration of this permit; and
    - (B) If the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.
  - (2) If IDEM, OAQ, upon receiving a timely and complete permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect, including any permit shield provided in 326 IAC 2-7-15, until the renewal permit has been issued or denied.
  - (c) Right to Operate After Application for Renewal [326 IAC 2-7-3]  
If the Permittee submits a timely and complete application for renewal of this permit, the source's failure to have a permit is not a violation of 326 IAC 2-7 until IDEM, OAQ, takes final action on the renewal application, except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified in writing by IDEM, OAQ, any additional information identified as being needed to process the application.

- (d) United States Environmental Protection Agency Authority [326 IAC 2-7-8(e)]  
If IDEM, OAQ, fails to act in a timely way on a Part 70 permit renewal, the U.S. EPA may invoke its authority under Section 505(e) of the Clean Air Act to terminate or revoke and reissue a Part 70 permit.

**B.17 Permit Amendment or Modification [326 IAC 2-7-11] [326 IAC 2-7-12]**

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- (a) Permit amendments and modifications are governed by the requirements of 326 IAC 2-7-11 or 326 IAC 2-7-12 whenever the Permittee seeks to amend or modify this permit.
- (b) Any application requesting an amendment or modification of this permit shall be submitted to:
- Indiana Department of Environmental Management  
Permits Branch, Office of Air Quality  
100 North Senate Avenue, P.O. Box 6015  
Indianapolis, Indiana 46206-6015
- Any such application shall be certified by the "responsible official" as defined by 326 IAC 2-7-1(34).
- (c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-7-11(c)(3)]
- (d) No permit amendment or modification is required for the addition, operation or removal of a nonroad engine, as defined in 40 CFR 89.2.

**B.18 Permit Revision Under Economic Incentives and Other Programs [326 IAC 2-7-5(8)] [326 IAC 2-7-12 (b)(2)]**

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- (a) No Part 70 permit revision shall be required under any approved economic incentives, marketable Part 70 permits, emissions trading, and other similar programs or processes for changes that are provided for in a Part 70 permit.
- (b) Notwithstanding 326 IAC 2-7-12(b)(1) and 326 IAC 2-7-12(c)(1), minor Part 70 permit modification procedures may be used for Part 70 modifications involving the use of economic incentives, marketable Part 70 permits, emissions trading, and other similar approaches to the extent that such minor Part 70 permit modification procedures are explicitly provided for in the applicable State Implementation Plan (SIP) or in applicable requirements promulgated or approved by the U.S. EPA.

**B.19 Operational Flexibility [326 IAC 2-7-20] [326 IAC 2-7-10.5]**

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- (a) The Permittee may make any change or changes at the source that are described in 326 IAC 2-7-20(b), (c), or (e), without a prior permit revision, if each of the following conditions is met:
- (1) The changes are not modifications under any provision of Title I of the Clean Air Act;
- (2) Any preconstruction approval required by 326 IAC 2-7-10.5 has been obtained;
- (3) The changes do not result in emissions which exceed the emissions allowable under this permit (whether expressed herein as a rate of emissions or in terms of total emissions);
- (4) The Permittee notifies the:

Indiana Department of Environmental Management  
Permits Branch, Office of Air Quality  
100 North Senate Avenue, P. O. Box 6015  
Indianapolis, Indiana 46206-6015

and

United States Environmental Protection Agency, Region V  
Air and Radiation Division, Regulation Development Branch - Indiana (AR-18J)  
77 West Jackson Boulevard  
Chicago, Illinois 60604-3590

in advance of the change by written notification at least ten (10) days in advance of the proposed change. The Permittee shall attach every such notice to the Permittee's copy of this permit; and

- (5) The Permittee maintains records on-site which document, on a rolling five (5) year basis, all such changes and emissions trading that are subject to 326 IAC 2-7-20(b), (c), or (e) and makes such records available, upon reasonable request, for public review.

Such records shall consist of all information required to be submitted to IDEM, OAQ, in the notices specified in 326 IAC 2-7-20(b)(1), (c)(1), and (e)(2).

- (b) The Permittee may make Section 502(b)(10) of the Clean Air Act changes (this term is defined at 326 IAC 2-7-1(36)) without a permit revision, subject to the constraint of 326 IAC 2-7-20(a). For each such Section 502(b)(10) of the Clean Air Act change, the required written notification shall include the following:

- (1) A brief description of the change within the source;
- (2) The date on which the change will occur;
- (3) Any change in emissions; and
- (4) Any permit term or condition that is no longer applicable as a result of the change.

The notification which shall be submitted is not considered an application form, report or compliance certification. Therefore, the notification by the Permittee does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

- (c) Emission Trades [326 IAC 2-7-20(c)]  
The Permittee may trade increases and decreases in emissions in the source, where the applicable SIP provides for such emission trades without requiring a permit revision, subject to the constraints of Section (a) of this condition and those in 326 IAC 2-7-20(c).
- (d) Alternative Operating Scenarios [326 IAC 2-7-20(d)]  
The Permittee may make changes at the source within the range of alternative operating scenarios that are described in the terms and conditions of this permit in accordance with 326 IAC 2-7-5(9). No prior notification of IDEM, OAQ, or U.S. EPA is required.

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**B.20 Source Modification Requirement [326 IAC 2-7-10.5]**

A modification, construction, or reconstruction is governed by the requirements of 326 IAC 2 and 326 IAC 2-7-10.5.

**B.21 Inspection and Entry [326 IAC 2-7-6] [IC 13-14-2-2] [IC 13-30-3-1] [IC 13-17-3-2]**

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Upon presentation of proper identification cards, credentials, and other documents as may be required by law, and subject to the Permittee's right under all applicable laws and regulations to assert that the information collected by the agency is confidential and entitled to be treated as such, the Permittee shall allow IDEM, OAQ, U.S. EPA, or an authorized representative to perform the following:

- (a) Enter upon the Permittee's premises where a Part 70 source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
- (b) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, have access to and copy any records that must be kept under the conditions of this permit;
- (c) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, inspect any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;
- (d) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, sample or monitor substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and
- (e) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

**B.22 Transfer of Ownership or Operational Control [326 IAC 2-7-11]**

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- (a) The Permittee must comply with the requirements of 326 IAC 2-7-11 whenever the Permittee seeks to change the ownership or operational control of the source and no other change in the permit is necessary.
- (b) Any application requesting a change in the ownership or operational control of the source shall contain a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new Permittee. The application shall be submitted to:

Indiana Department of Environmental Management  
Permits Branch, Office of Air Quality  
100 North Senate Avenue, P.O. Box 6015  
Indianapolis, Indiana 46206-6015

The application which shall be submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

- (c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-7-11(c)(3)]

**B.23 Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-7-5(7)][326 IAC 2-1.1-7]**

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- (a) The Permittee shall pay annual fees to IDEM, OAQ, within thirty (30) calendar days of receipt of a billing. Pursuant to 326 IAC 2-7-19(b), if the Permittee does not receive a bill from IDEM, OAQ, the applicable fee is due April 1 of each year.
- (b) Except as provided in 326 IAC 2-7-19(e), failure to pay may result in administrative enforcement action or revocation of this permit.

- (c) The Permittee may call the following telephone numbers: 1-800-451-6027 or 317-233-4230 (ask for OAQ, Billing, Licensing, and Training Section), to determine the appropriate permit fee.

**B.24 Credible Evidence [326 IAC 2-7-5(3)][326 IAC 2-7-6][62 FR 8314]**

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Notwithstanding the conditions of this permit that state specific methods that may be used to demonstrate compliance with, or a violation of, applicable requirements, any person (including the Permittee) may also use other credible evidence to demonstrate compliance with, or a violation of, any term or condition of this permit.

**SECTION C**

**SOURCE OPERATION CONDITIONS**

Entire Source

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**

**C.1 Particulate Emission Limitations For Processes with Process Weight Rates Less Than One Hundred (100) Pounds per Hour [40 CFR 52 Subpart P][326 IAC 6-3-2]**

- (a) Pursuant to 40 CFR 52 Subpart P, particulate matter emissions from any process not already regulated by 326 IAC 6-1 or any New Source Performance Standard, and which has a maximum process weight rate less than 100 pounds per hour shall not exceed 0.551 pounds per hour.
- (b) Pursuant to 326 IAC 6-3-2(e)(2), particulate emissions from any process not exempt under 326 IAC 6-3-1(b) or (c) which has a maximum process weight rate less than 100 pounds per hour and the methods in 326 IAC 6-3-2(b) through (d) do not apply shall not exceed 0.551 pounds per hour. This condition is not federally enforceable.

**C.2 Opacity [326 IAC 5-1]**

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

**C.3 Open Burning [326 IAC 4-1] [IC 13-17-9]**

The Permittee shall not open burn any material except as provided in 326 IAC 4-1-3, 326 IAC 4-1-4 or 326 IAC 4-1-6. The previous sentence notwithstanding, the Permittee may open burn in accordance with an open burning approval issued by the Commissioner under 326 IAC 4-1-4.1. 326 IAC 4-1-3 (a)(2)(A) and (B) are not federally enforceable.

**C.4 Incineration [326 IAC 4-2] [326 IAC 9-1-2]**

The Permittee shall not operate an incinerator or incinerate any waste or refuse except as provided in 326 IAC 4-2 and 326 IAC 9-1-2. 326 IAC 9-1-2 is not federally enforceable.

**C.5 Fugitive Dust Emissions [326 IAC 6-4]**

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions). 326 IAC 6-4-2(4) is not federally enforceable.

**C.6 Operation of Equipment [326 IAC 2-7-6(6)]**

Except as otherwise provided by statute or rule, or in this permit, all air pollution control equipment listed in this permit and used to comply with an applicable requirement shall be operated at all times that the emission units vented to the control equipment are in operation.



C.7 Stack Height [326 IAC 1-7]

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The Permittee shall comply with the applicable provisions of 326 IAC 1-7 (Stack Height Provisions), for all exhaust stacks through which a potential (before controls) of twenty-five (25) tons per year or more of particulate matter or sulfur dioxide is emitted. The provisions of 326 IAC 1-7-1(3), 326 IAC 1-7-2, 326 IAC 1-7-3(c) and (d), 326 IAC 1-7-4, and 326 IAC 1-7-5(a), (b), and (d) are not federally enforceable.

C.8 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]

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- (a) Notification requirements apply to each owner or operator. If the combined amount of regulated asbestos containing material (RACM) to be stripped, removed or disturbed is at least 260 linear feet on pipes or 160 square feet on other facility components, or at least thirty-five (35) cubic feet on all facility components, then the notification requirements of 326 IAC 14-10-3 are mandatory. All demolition projects require notification whether or not asbestos is present.
- (b) The Permittee shall ensure that a written notification is sent on a form provided by the Commissioner at least ten (10) working days before asbestos stripping or removal work or before demolition begins, per 326 IAC 14-10-3, and shall update such notice as necessary, including, but not limited to the following:
  - (1) When the amount of affected asbestos containing material increases or decreases by at least twenty percent (20%); or
  - (2) If there is a change in the following:
    - (A) Asbestos removal or demolition start date;
    - (B) Removal or demolition contractor; or
    - (C) Waste disposal site.
- (c) The Permittee shall ensure that the notice is postmarked or delivered according to the guidelines set forth in 326 IAC 14-10-3(2).
- (d) The notice to be submitted shall include the information enumerated in 326 IAC 14-10-3(3).

All required notifications shall be submitted to:

Indiana Department of Environmental Management  
Asbestos Section, Office of Air Quality  
100 North Senate Avenue, P.O. Box 6015  
Indianapolis, Indiana 46206-6015

The notice shall include a signed certification from the owner or operator that the information provided in this notification is correct and that only Indiana licensed workers and project supervisors will be used to implement the asbestos removal project. The notifications do not require a certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

- (e) Procedures for Asbestos Emission Control  
The Permittee shall comply with the applicable emission control procedures in 326 IAC 14-10-4 and 40 CFR 61.145(c). Per 326 IAC 14-10-1, emission control requirements are applicable for any removal or disturbance of RACM greater than three (3) linear feet on pipes or three (3) square feet on any other facility components or a total of at least 0.75 cubic feet on all facility components.

- (f) Demolition and renovation  
The Permittee shall thoroughly inspect the affected facility or part of the facility where the demolition or renovation will occur for the presence of asbestos pursuant to 40 CFR 61.145(a).
- (g) Indiana Accredited Asbestos Inspector  
The Permittee shall comply with 326 IAC 14-10-1(a) that requires the owner or operator, prior to a renovation/demolition, to use an Indiana Accredited Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos. The requirement to use an Indiana Accredited Asbestos inspector is not federally enforceable.

### Testing Requirements [326 IAC 2-7-6(1)]

#### C.9 Performance Testing [326 IAC 3-6]

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- (a) All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this permit, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

A test protocol, except as provided elsewhere in this permit, shall be submitted to:

Indiana Department of Environmental Management  
Compliance Data Section, Office of Air Quality  
100 North Senate Avenue, P. O. Box 6015  
Indianapolis, Indiana 46206-6015

no later than thirty-five (35) days prior to the intended test date. The protocol submitted by the Permittee does not require certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

- (b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date. The notification submitted by the Permittee does not require certification by the "responsible official" as defined by 326 IAC 2-7-1(34).
- (c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ not later than forty-five (45) days after the completion of the testing. An extension may be granted by IDEM, OAQ, if the Permittee submits to IDEM, OAQ, a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

### Compliance Requirements [326 IAC 2-1.1-11]

#### C.10 Compliance Requirements [326 IAC 2-1.1-11]

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The commissioner may require stack testing, monitoring, or reporting at any time to assure compliance with all applicable requirements by issuing an order under 326 IAC 2-1.1-11. Any monitoring or testing shall be performed in accordance with 326 IAC 3 or other methods approved by the commissioner or the U. S. EPA.

**Compliance Monitoring Requirements [326 IAC 2-7-5(1)] [326 IAC 2-7-6(1)]**

**C.11 Compliance Monitoring [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]**

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Unless otherwise specified in this permit, all monitoring and record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance. If required by Section D, the Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment. If due to circumstances beyond its control, that equipment cannot be installed and operated within ninety (90) days, the Permittee may extend the compliance schedule related to the equipment for an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management  
Compliance Branch, Office of Air Quality  
100 North Senate Avenue, P. O. Box 6015  
Indianapolis, Indiana 46206-6015

in writing, prior to the end of the initial ninety (90) day compliance schedule, with full justification of the reasons for the inability to meet this date.

The notification which shall be submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

Unless otherwise specified in the approval for the new emission unit(s), compliance monitoring for new emission units or emission units added through a source modification shall be implemented when operation begins.

**C.12 Monitoring Methods [326 IAC 3] [40 CFR 60] [40 CFR 63]**

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Any monitoring or testing required by Section D of this permit shall be performed according to the provisions of 326 IAC 3, 40 CFR 60, Appendix A, 40 CFR 60 Appendix B, 40 CFR 63, or other approved methods as specified in this permit.

**C.13 Pressure Gauge and Other Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]**

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- (a) Whenever a condition in this permit requires the measurement of pressure drop across any part of the unit or its control device, the gauge employed shall have a scale such that the expected normal reading shall be no less than twenty percent (20%) of full scale and be accurate within plus or minus two percent ( $\pm 2\%$ ) of full scale reading.
- (b) Whenever a condition in this permit requires the measurement of a temperature or flow rate, the instrument employed shall have a scale such that the expected normal reading shall be no less than twenty percent (20%) of full scale and be accurate within plus or minus two percent ( $\pm 2\%$ ) of full scale reading.
- (c) The Preventive Maintenance Plan for the pH meter shall include calibration using known standards. The frequency of calibration shall be adjusted such that the typical error found at calibration is less than one pH point.
- (d) The Permittee may request the IDEM, OAQ approve the use of a pressure gauge or other instrument that does not meet the above specifications provided the Permittee can demonstrate an alternative pressure gauge or other instrument specification will adequately ensure compliance with permit conditions requiring the measurement of pressure drop or other parameters.

**Corrective Actions and Response Steps [326 IAC 2-7-5] [326 IAC 2-7-6]**

**C.14 Emergency Reduction Plans [326 IAC 1-5-2] [326 IAC 1-5-3]**

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Pursuant to 326 IAC 1-5-2 (Emergency Reduction Plans; Submission):

- (a) The Permittee shall prepare written emergency reduction plans (ERPs) consistent with safe operating procedures.

- (b) These ERPs shall be submitted for approval to:

Indiana Department of Environmental Management  
Compliance Branch, Office of Air Quality  
100 North Senate Avenue, P.O. Box 6015  
Indianapolis, Indiana 46206-6015

within ninety (90) days after the date of issuance of this permit.

The ERP does require the certification by the “responsible official” as defined by 326 IAC 2-7-1(34).

- (c) If the ERP is disapproved by IDEM, OAQ, the Permittee shall have an additional thirty (30) days to resolve the differences and submit an approvable ERP.
- (d) These ERPs shall state those actions that will be taken, when each episode level is declared, to reduce or eliminate emissions of the appropriate air pollutants.
- (e) Said ERPs shall also identify the sources of air pollutants, the approximate amount of reduction of the pollutants, and a brief description of the manner in which the reduction will be achieved.
- (f) Upon direct notification by IDEM, OAQ, that a specific air pollution episode level is in effect, the Permittee shall immediately put into effect the actions stipulated in the approved ERP for the appropriate episode level.  
[326 IAC 1-5-3]

**C.15 Risk Management Plan [326 IAC 2-7-5(12)] [40 CFR 68]**

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If a regulated substance, as defined in 40 CFR 68, is present at a source in more than a threshold quantity, the Permittee must comply with the applicable requirements of 40 CFR 68.

**C.16 Compliance Response Plan - Preparation, Implementation, Records, and Reports [326 IAC 2-7-5] [326 IAC 2-7-6]**

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- (a) The Permittee is required to prepare a Compliance Response Plan (CRP) for each compliance monitoring condition of this permit. A CRP shall be submitted to IDEM, upon request. The CRP shall be prepared within ninety (90) days after issuance of this permit by the Permittee, supplemented from time to time by the Permittee, maintained on site, and comprised of:
- (1) Reasonable response steps that may be implemented in the event that a response step is needed pursuant to the requirements of Section D of this permit; and an expected timeframe for taking reasonable response steps.
- (2) If, at any time, the Permittee takes reasonable response steps that are not set forth in the Permittee's current Compliance Response Plan and the Permittee documents such response in accordance with subsection (e) below, the Permittee shall amend its Compliance Response Plan to include such response steps taken.

- (b) For each compliance monitoring condition of this permit, reasonable response steps shall be taken when indicated by the provisions of that compliance monitoring condition as follows:
  - (1) Reasonable response steps shall be taken as set forth in the Permittee's current Compliance Response Plan; or
  - (2) If none of the reasonable response steps listed in the Compliance Response Plan is applicable or responsive to the excursion, the Permittee shall devise and implement additional response steps as expeditiously as practical. Taking such additional response steps shall not be considered a deviation from this permit so long as the Permittee documents such response steps in accordance with this condition.
  - (3) If the Permittee determines that additional response steps would necessitate that the emissions unit or control device be shut down, and it will be ten (10) days or more until the unit or device will be shut down, then the Permittee shall promptly notify the IDEM, OAQ of the expected date of the shut down. The notification shall also include the status of the applicable compliance monitoring parameter with respect to normal, and the results of the response actions taken up to the time of notification.
  - (4) Failure to take reasonable response steps shall be considered a deviation from the permit.
- (c) The Permittee is not required to take any further response steps for any of the following reasons:
  - (1) A false reading occurs due to the malfunction of the monitoring equipment and prompt action was taken to correct the monitoring equipment.
  - (2) The Permittee has determined that the compliance monitoring parameters established in the permit conditions are technically inappropriate, has previously submitted a request for a minor permit modification to the permit, and such request has not been denied.
  - (3) An automatic measurement was taken when the process was not operating.
  - (4) The process has already returned or is returning to operating within "normal" parameters and no response steps are required.
- (d) When implementing reasonable steps in response to a compliance monitoring condition, if the Permittee determines that an exceedance of an emission limitation has occurred, the Permittee shall report such deviations pursuant to Section B-Deviations from Permit Requirements and Conditions.
- (e) The Permittee shall record all instances when, in accordance with Section D, response steps are taken. In the event of an emergency, the provisions of 326 IAC 2-7-16 (Emergency Provisions) requiring prompt corrective action to mitigate emissions shall prevail.
- (f) Except as otherwise provided by a rule or provided specifically in Section D, all monitoring as required in Section D shall be performed when the emission unit is operating, except for time necessary to perform quality assurance and maintenance activities.

**C.17 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5] [326 IAC 2-7-6]**

- (a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall take appropriate response actions. The Permittee shall submit a description of these response actions to IDEM, OAQ, within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize excess emissions from the affected facility while the response actions are being implemented.
- (b) A retest to demonstrate compliance shall be performed within one hundred twenty (120) days of receipt of the original test results. Should the Permittee demonstrate to IDEM, OAQ that retesting in one-hundred and twenty (120) days is not practicable, IDEM, OAQ may extend the retesting deadline.
- (c) IDEM, OAQ reserves the authority to take any actions allowed under law in response to noncompliant stack tests.

The response action documents submitted pursuant to this condition do require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

**Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

**C.18 Emission Statement [326 IAC 2-7-5(3)(C)(iii)][326 IAC 2-7-5(7)][326 IAC 2-7-19(c)] [326 IAC 2-6]**

- (a) Pursuant to 326 IAC 2-6-3(a)(1), the Permittee shall submit by July 1 of each year an emission statement covering the previous calendar year. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4(c) and shall meet the following requirements:
  - (1) Indicate estimated actual emissions of all pollutants listed in 326 IAC 2-6-4(a);
  - (2) Indicate estimated actual emissions of regulated pollutants as defined by 326 IAC 2-7-1 (32) ("Regulated pollutant, which is used only for purposes of Section 19 of this rule") from the source, for purpose of fee assessment.

The statement must be submitted to:

Indiana Department of Environmental Management  
Technical Support and Modeling Section, Office of Air Quality  
100 North Senate Avenue, P.O. Box 6015  
Indianapolis, Indiana 46206-6015

The emission statement does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

- (b) The emission statement required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.

C.19 General Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-6]

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- (a) Records of all required monitoring data, reports and support information required by this permit shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be physically present or electronically accessible at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.
- (b) Unless otherwise specified in this permit, all record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance.

C.20 General Reporting Requirements [326 IAC 2-7-5(3)(C)] [326 IAC 2-1.1-11]

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- (a) The Permittee shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported. This report shall be submitted within thirty (30) days of the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).
- (b) The report required in (a) of this condition and reports required by conditions in Section D of this permit shall be submitted to:  
  
Indiana Department of Environmental Management  
Compliance Data Section, Office of Air Quality  
100 North Senate Avenue, P. O. Box 6015  
Indianapolis, Indiana 46206-6015
- (c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.
- (d) Unless otherwise specified in this permit, all reports required in Section D of this permit shall be submitted within thirty (30) days of the end of the reporting period. All reports do require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).
- (e) The first report shall cover the period commencing on the date of issuance of this permit and ending on the last day of the reporting period. Reporting periods are based on calendar years, unless otherwise specified in this permit. For the purpose of this permit "calendar year" means the twelve (12) month period from January 1 to December 31 inclusive.

**Stratospheric Ozone Protection**

C.21 Compliance with 40 CFR 82 and 326 IAC 22-1

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Pursuant to 40 CFR 82 (Protection of Stratospheric Ozone), Subpart F, except as provided for motor vehicle air conditioners in Subpart B, the Permittee shall comply with the standards for recycling and emissions reduction:

- (a) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to 40 CFR 82.156.

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- (b) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 CFR 82.158.
- (c) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 CFR 82.161.



**SECTION D.1**

**FACILITY OPERATION CONDITIONS**

**Facility Description [326 IAC 2-7-5(15)]:**

- (a) one (1) electric induction furnace, referred to as F1, constructed in 1977, with a maximum capacity of 1.67 tons of iron per hour, with emissions controlled by the melt shop dust collector, referred to as C06, and exhausting to stack S06;
- (b) one (1) electric induction furnace, referred to as F2, constructed in 1982, with a maximum capacity of 2.92 tons of iron per hour, with emissions controlled by the melt shop dust collector, referred to as C06, and exhausting to stack S06;
- (c) one (1) electric induction furnace, referred to as F3, constructed in 1982, with a maximum capacity of 2.92 tons of iron per hour, with emissions controlled by the melt shop dust collector, referred to as C06, and exhausting to stack S06;
- (d) one (1) electric induction furnace, referred to as F4, constructed in 1985, with a maximum capacity of 2.92 tons of iron per hour, with emissions controlled by the melt shop dust collector, referred to as C06, and exhausting to stack S06;
- (e) one (1) electric induction furnace, referred to as F5, constructed in 1990, with a maximum capacity of 3.33 tons of iron per hour, with emissions controlled by the melt shop dust collector, referred to as C06, and exhausting to stack S06;
- (f) one (1) scrap and charge handling process, referred to as process P01, constructed prior to 1972, with a maximum capacity of 13.76 tons of metal per hour, with emissions controlled by the melt shop dust collector, referred to as C06 and exhausting to stack S06;
- (g) one (1) natural gas-fired scrap preheater, referred to as emission unit P02, constructed in 1996, with a maximum heat input capacity of 17.8 million Btu per hour, with emissions uncontrolled and exhausting to stack S12;
- (h) one (1) inoculation process, referred to as process P04, constructed prior to 1972, with a maximum capacity of 13.76 tons of metal per hour, consisting of two methods of operation described as follows:
  - (1) Inoculation is periodically done in the furnace before discharge. Emissions are controlled by the melt shop dust collector, referred to as C06, exhausting to stack S06.
  - (2) Inoculation is generally done in molten metal transfer ladles, where emissions are currently uncontrolled and exhaust through Vent 24.

Note: Casting Service will re-direct inoculation emissions exhausting through Vent 24 to the melt shop dust collector, C06, within six (6) months after issuance of the Part 70 permit.
- (i) one (1) pouring and casting operation, referred to as process P06, and one (1) castings cooling operation, referred to as process P07, both constructed prior to 1972, with a maximum combined capacity of 13.76 tons of metal per hour and 68.8 tons of sand per hour, with emissions uncontrolled and exhausting inside the building;

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

## **Emission Limitations and Standards [326 IAC 2-7-5(1)]**

### **D.1.1 Prevention of Significant Deterioration (PSD) [326 IAC 2-2-3]**

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Pursuant to 326 IAC 2-2-3 (PSD), BACT shall include the following conditions:

- (a) The melt furnaces F1, F2, F3, F4, and F5 shall be controlled by a dust collector at all times that the melt furnaces F1, F2, F3, F4, and F5 are in operation.
- (b) Filterable PM emissions from dust collector C06 controlling the melt furnaces, the scrap and charge handling process, and the inoculation process shall not exceed 0.002 grains per dry standard cubic foot per minute, 1.48 pounds per hour, and 0.216 pound per ton of metal throughput.
- (c) Total (filterable and condensable) PM/PM10 emissions from dust collector C06 controlling the melt furnaces, the scrap and charge handling process, and the inoculation process shall not exceed 0.005 grains per dry standard cubic foot per minute, 3.71 pounds per hour and 0.54 pound per ton of metal throughput.
- (d) The throughput of metal to the electric induction furnaces, the scrap and charge handling process, and the inoculation process, shall not exceed 60,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (e) The opacity from the melt shop dust collector shall not exceed ten percent (10%) opacity based on a six-minute average (24 readings taken in accordance with 40 CFR Part 60, Appendix A, Method 9).
- (f) The opacity from any building opening shall not exceed three percent (3%) opacity based on a six-minute average (24 readings taken in accordance with 40 CFR Part 60, Appendix A, Method 9).

The following limits shall also apply pursuant to 326 IAC 2-2 so that the results of the air dispersion modeling analysis do not exceed any of the National Ambient Air Quality Standards (NAAQS) or PSD Increment values:

- (g) Total PM emissions from the pouring and casting operation and the casting cooling operation shall not exceed 4.2 pounds per ton of metal throughput;
- (h) Total PM10 emissions from the pouring and casting operation and the casting cooling operation shall not exceed 2.06 pounds per ton of metal throughput;
- (i) The throughput of metal to the pouring and casting operation and the casting cooling operation shall not exceed 60,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (j) The Permittee shall re-direct inoculation emissions exhausting through Vent 24 to the melt shop dust collector, C06, within six (6) months after issuance of the Part 70 permit. The PM and PM10 emission limits for the melt shop dust collector, C06, stated above will continue to apply after all inoculation emissions are vented to the melt shop dust collector.

### **D.1.2 PSD Minor Limit [326 IAC 2-2]**

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- (a) The throughput of metal to the electric induction furnaces, the scrap and charge handling process, and the inoculation process shall not exceed 60,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (b) Total lead emissions from dust collector C06 controlling the five (5) electric induction furnaces, the scrap and charge handling operation, and the inoculation operation shall not exceed 0.022 pound per ton of metal throughput.

Compliance with this limit makes 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable for lead emissions.

**D.1.3 General Provisions Relating to NESHAP [326 IAC 20-1][40 CFR Part 63, Subpart A]**

- (a) The provisions of 40 CFR 63 Subpart A - General Provisions, which are incorporated as 326 IAC 20-1-1, apply to the gray iron foundry except when otherwise specified in 40 CFR 63 Subpart EEEEE. The Permittee must comply with these requirements on and after April 22, 2004.
- (b) Since the applicable requirements associated with the compliance options are not included and specifically identified in this permit, the permit shield authorized by the B section of this permit in the condition titled Permit Shield, and set out in 326 IAC 2-7-15 does not apply to paragraph (a) of this condition.

**D.1.4 National Emissions Standards for Hazardous Air Pollutants for Iron and Steel Foundries [40 CFR Part 63, Subpart EEEEE]**

- (a) The affected source, the gray iron foundry, is subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Iron and Steel Foundries, (40 CFR 63, Subpart EEEEE), effective April 22, 2004. Pursuant to this rule, the Permittee must comply with 40 CFR 63, Subpart EEEEE on and after April 23, 2007, except as provided in paragraph (d), or accept and meet an enforceable HAP emissions limit below the major source threshold prior to April 23, 2007. Since the applicable requirements associated with the compliance options are not included and specifically identified in this permit, the permit shield authorized by the B section of this permit in the condition titled Permit Shield, and set out in 326 IAC 2-7-15 does not apply to paragraph (a) of this condition.
- (b) The following emissions units comprise the affected source that is subject to 40 CFR 63, Subpart EEEEE:
- (1) Five (5) electric induction furnaces, referred to as F1 through F5;
  - (2) One (1) natural gas-fired scrap preheater, referred to as P02; and
  - (3) Fugitive emissions from foundry operations.
- (c) The definitions of 40 CFR 63, Subpart EEEEE at 40 CFR 63.7765 are applicable to the affected source.
- (d) Pursuant to 40 CFR 63.7700(a) and 40 CFR 63.7683(b), the Permittee shall comply with the certification requirements in 40 CFR 63.7700(b) or prepare and implement a plan for the selection and inspection of scrap according to the requirements in 40 CFR 63.7700(c) no later than April 22, 2005.

**D.1.5 Particulate [326 IAC 6-3-2]**

- (a) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the facilities listed in the table below shall be as follows:

Facility	Control Device	Process Weight Rate (tons/hr)	Emission Limit (lbs PM/hr)
Inoculation process P04	Uncontrolled	13.76	23.75
Pouring/casting P06 and Castings cooling P07	Uncontrolled	82.56	49.37

The pounds per hour limitations were calculated with the following equation:

Interpolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour; and  
P = process weight rate in tons per hour

- (b) The Permittee shall re-direct inoculation emissions exhausting through Vent 24 to the melt shop dust collector, C06, within six (6) months after issuance of the Part 70 permit. Upon completion of this requirement, the limit pursuant to 326 IAC 6-3-2 for the inoculation process shall no longer apply.

#### D.1.6 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for these facilities and any control devices.

### Compliance Determination Requirements

#### D.1.7 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]

- (a) After the inoculation process has been re-directed to the meltshop baghouse, but no later than 180 days after issuance of this Part 70 permit, in order to demonstrate compliance with Conditions D.1.1, D.1.2, and D.1.5, the Permittee shall perform PM, PM10, lead, and opacity testing on stack S06, using methods as approved by the Commissioner. These tests shall be repeated at least once every five (5) years from the date of these valid compliance demonstrations. PM10 includes filterable and condensable PM10. Testing shall be conducted in accordance with Section C- Performance Testing.
- (b) Within 180 days after issuance of this Part 70 permit, in order to demonstrate compliance with Conditions D.1.1 and D.1.5, the Permittee shall perform PM and PM10 testing for the pouring/casting and casting cooling operation using methods as approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. PM10 includes filterable and condensable PM10. Testing shall be conducted in accordance with Section C- Performance Testing.

#### D.1.8 Particulate Control

In order to comply with conditions D.1.1, D.1.2, and D.1.5, the melt shop dust collector, referred to as C06, for particulate control shall be in operation and control emissions from the five (5) electric induction furnaces, the scrap and charge handling process, and the inoculation process at all times that these facilities are in operation.

### Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

#### D.1.9 Visible Emissions Notations

- (a) Visible emission notations of the melt shop dust collector (C06) stack exhaust shall be performed once per shift during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

- (e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.

#### D.1.10 Parametric Monitoring

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The Permittee shall record the total static pressure drop across the dust collector used in conjunction with the five (5) electric induction furnaces, the scrap and charge handling process, and the inoculation process, at least once per shift when the five (5) electric induction furnaces, the scrap and charge handling process, and the inoculation process are in operation when venting to the atmosphere. When for any one reading, the pressure drop across the dust collector is outside the normal range of 2.0 and 6.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.

The instrument used for determining the pressure shall comply with Section C - Pressure Gauge and Other Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated at least once every six (6) months.

#### D.1.11 Dust Collector Inspections

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An inspection shall be performed each calendar quarter of all bags controlling the five (5) electric induction furnaces, the scrap and charge handling process, and the inoculation process. Inspections required by this condition shall not be performed in consecutive months. All defective bags shall be replaced.

#### D.1.12 Broken or Failed Bag Detection

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In the event that bag failure has been observed:

- (a) For multi-compartment units, the affected compartments will be shut down immediately until the failed units have been repaired or replaced. Within eight (8) business hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) business hours of discovery of the failure and shall include a timetable for completion. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit. If operations continue after bag failure is observed and it will be 10 days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

- (b) For single compartment dust collectors, if failure is indicated by a significant drop in the dust collector's pressure readings with abnormal visible emissions or the failure is indicated by an opacity violation, or if bag failure is determined by other means, such as gas temperatures, flow rates, air infiltration, leaks, dust traces or triboflows, then failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

**Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

**D.1.13 National Emissions Standards for Hazardous Air Pollutants for Iron and Steel Foundries - Notification Requirements [40 CFR 63, Subpart EEEEE]**

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- (a) Pursuant to 40 CFR 63.7750, the Permittee shall submit all of the notifications required by 40 CFR 63.6(h)(4) and (5), 63.7(b) and (c); 63.8(e); 63.8(f)(4) and (6); 63.9(b) through (h) that apply to the affected source and chosen compliance method by the specified dates. These notifications include, but are not limited to, the following:
- (1) An Initial Notification containing the information specified in 40 CFR 63.9(b)(2) no later than August 20, 2004.
  - (2) A Notification of Compliance Status containing the information required by 40 CFR 63.9(h) in accordance with 40 CFR 63.7750(e). The Notification of Compliance Status must be submitted:
    - (A) Before the close of business on the 30th calendar day following completion of the initial compliance demonstration for each initial compliance demonstration that does not include a performance test; and
    - (B) Before the close of business on the 60th calendar day following the completion of the performance test according to the requirement specified in 40 CFR 63.10(d)(2) for each initial compliance demonstration that does include a performance test.
  - (3) If required to conduct a performance test, a notification of intent to conduct a performance test at least 60 calendar days before the performance test is scheduled to begin as required by 40 CFR 63.7(b)(1) and 40 CFR 63.7750(d).
  - (4) If required to use a continuous monitoring system (CMS), notifications, if required, as specified in 40 CFR 63.9(g), by the date of submission of the notification of intent to conduct a performance test.
  - (5) If required to conduct opacity or visible emissions observations, the anticipated date for conducting the opacity or visible emission observations specified in 40 CFR 63.6(h)(5) in accordance with the appropriate schedule specified in 40 CFR 63.9(f) as required by 40 CFR 63.7750(a).

- (b) The notifications required by paragraph (a) shall be submitted to:

Indiana Department of Environmental Management  
Compliance Data Section, Office of Air Quality  
100 North Senate Avenue, P.O. Box 6015  
Indianapolis, Indiana 46206-6015

and

United States Environmental Protection Agency, Region V  
Director, Air and Radiation Division  
77 West Jackson Boulevard  
Chicago, Illinois 60604-3590

The notifications require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

**D.1.14 Requirement to Submit a Significant Permit Modification Application [326 IAC 2-7-12][326 IAC 2-7-5]**

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The Permittee shall submit an application for a significant permit modification to IDEM, OAQ to include information regarding which compliance option or options will be chosen in the Part 70 permit.

- (a) The significant permit modification application shall be consistent with 326 IAC 2-7-12, including information sufficient for IDEM, OAQ to incorporate into the Part 70 permit the applicable requirements of 40 CFR 63, Subpart EEEEE, a description of the affected source and activities subject to the standard, and a description of how the Permittee will meet the applicable requirements of the standard.
- (b) The significant permit modification application shall be submitted no later than nine months prior to April 23, 2007.
- (c) The significant permit modification application shall be submitted to:

Indiana Department of Environmental Management  
Permits Branch, Office of Air Quality  
100 North Senate Avenue, P.O. Box 6015  
Indianapolis, Indiana 46206-6015

**D.1.15 Record Keeping Requirements**

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- (a) To document compliance with Condition D.1.1(h) and D.1.2(a), the Permittee shall maintain records of the throughput of metal to the electric induction furnaces, the scrap and charge handling, the inoculation operation, the pouring and casting operation, and the casting cooling operation for each month. Records necessary to demonstrate compliance shall be available within 30 days of the end of each compliance period.
- (b) To document compliance with Condition D.1.1(i) and D.1.5(b), the Permittee shall maintain records of the date that inoculation emissions were re-directed to the melt shop dust collector C06.
- (c) To document compliance with Condition D.1.9, the Permittee shall maintain records of visible emission notations of the melt shop dust collector (C06) stack exhaust once per shift.
- (d) To document compliance with Condition D.1.10, the Permittee shall maintain records once per shift of the total static pressure drop during normal operation when venting to the atmosphere.
- (e) To document compliance with Condition D.1.11, the Permittee shall maintain records of the results of the inspections required under Condition D.1.11.
- (f) To document compliance with Condition D.1.6, the Permittee shall maintain of records of any additional inspections prescribed by the Preventive Maintenance Plan.

- (g) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

#### D.1.16 Reporting Requirements

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- (a) A quarterly summary of the information to document compliance with Condition D.1.1(h) and D.1.2(a) shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).
- (b) A notification of the date that inoculation emissions were re-directed to the melt shop dust collector C06 shall be submitted to the address listed in Section C – General Reporting Requirements, of this permit, within thirty (30) days of re-directing inoculation emissions to the melt shop dust collector C06.



**SECTION D.2**

**FACILITY OPERATION CONDITIONS**

**Facility Description [326 IAC 2-7-5(15)]:**

- (j) one (1) magnesium treatment process station using wire injection, referred to as process P05a, constructed in 1998, with a maximum capacity of 13.76 tons of iron per hour, with emissions controlled by dust collector C14, and exhausting to stack S14;
- (k) one (1) magnesium treatment process station using wire injection, referred to as process P05b, constructed in 1994, with a maximum capacity of 13.76 tons of metal per hour, with emissions controlled by dust collector C09, exhausting to stack S09;
- (l) expendable pattern casting, referred to as process P08, constructed in 1978, with a maximum capacity of 68.75 pounds of foam per hour, with emissions uncontrolled and exhausting inside the building;
- (m) One (1) shakeout system, consisting of the following:
  - (1) one (1) high bay shakeout system, referred to as process P09a, constructed in 1991, with a maximum throughput capacity of 13.76 tons of metal per hour and 68.8 tons of sand per hour, with emissions controlled by the high bay shakeout dust collector, referred to as C01, and exhausting to stack S01;
  - (2) one (1) center bay shakeout system, referred to as process P09b, constructed in 1990, with a maximum throughput capacity of 13.76 tons of metal per hour and 68.8 tons of sand per hour, with emissions controlled by the center bay shakeout dust collector, referred to as C02, and exhausting to stack S02;
- (n) one (1) mechanical reclamation system, referred to as process P10, constructed in 1991 and modified in 1999, with a maximum capacity of 68.8 tons of sand per hour, including one (1) Didion rotary lump crusher and one (1) rotoconditioner with emissions controlled by the mechanical reclaim dust collector, referred to as C04, and exhausting to stack S04;
- (o) two (2) pneumatic sand transporters for the mechanical reclamation system, constructed in 1999, each with a maximum capacity of 15 tons of sand per hour, with emissions controlled by dust collector C05, exhausting to stack S05;
- (p) one (1) thermal sand reclamation system including a natural gas-fired calcining unit, with a maximum heat input capacity of 6.0 million British thermal units (MMBtu) per hour, referred to as process P11, constructed in 1991, with a maximum capacity of 6.0 tons of sand per hour, with emissions controlled by the thermal dust collector, referred to as C05, and exhausting to stack S05;
- (q) Shotblasting operation consisting of the following:
  - (1) one (1) pneumatic room blast operation, referred to as process P12a, constructed prior to 1972, with a maximum capacity of 1.376 tons of metal per hour, with emissions controlled by the room blast dust collector, referred to as C09, and exhausting through stack S09;
  - (2) two (2) small shotblast machines, referred to as small castings blasters, constructed prior to 1972, and BCP shot blast, constructed in 1991, referred to as process P12b, with a maximum combined capacity of 13.76 tons of metal per hour, with emissions controlled by the blast operations dust collector, referred to as C03, and exhausting to stack S03;

- (r) cleaning and grinding operations, referred to as process P13, constructed prior to 1972 and modified in 2001, with a maximum capacity of 13.76 tons of metal per hour, consisting of two (2) grinding areas with emissions from one (1) area controlled by a dust collector, referred to as C15, exhausting to stack S15, and emissions from the other area controlled by a dust collector, referred to as C07, exhausting to stack S07;

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

### **Emission Limitations and Standards [326 IAC 2-7-5(1)]**

#### **D.2.1 Prevention of Significant Deterioration (PSD) [326 IAC 2-2]**

The following limits shall apply pursuant to 326 IAC 2-2 so that the results of the air dispersion modeling analysis performed in support of the PSD BACT determination in condition D.1.1 do not exceed any of the National Ambient Air Quality Standards (NAAQS) or PSD Increment values:

- (a) The combined throughput of metal to the magnesium wire treatment processes, P05a and P05b, and the pneumatic room blast operations, P12a, shall not exceed 54,500 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (b) Total PM emissions from dust collectors C09 and C14 controlling the magnesium wire treatment processes, identified as P05a and P05b, and the pneumatic room blast operations, identified as P12a, shall not exceed 0.118 pound per ton of combined metal throughput;
- (c) Total PM10 emissions from dust collectors C09 and C14 controlling the magnesium wire treatment processes, identified as P05a and P05b, and the pneumatic room blast operations, identified as P12a, shall not exceed 0.093 pound per ton of combined metal throughput;
- (d) The combined throughput of metal to the high and center bay shakeout operations, P09a and P09b, shall not exceed 45,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (e) Total PM emissions from dust collectors C01 and C02 controlling the high and center bay shakeout operations, identified as P09a and P09b, shall not exceed 0.19 pound per ton of combined metal throughput;
- (f) Total PM10 emissions from dust collectors C01 and C02 controlling the high and center bay shakeout operations, identified as P09a and P09b, shall not exceed 0.133 pound per ton of combined metal throughput;
- (g) The combined throughput of metal to the small castings blasters and BCP shot blast, P12b, shall not exceed 45,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (h) Total PM emissions from dust collector C03 controlling the small casting blasters and BCP shot blast, identified as P12b, shall not exceed 0.25 pound per ton of combined metal throughput;
- (i) Total PM10 emissions from dust collector C03 controlling the small casting blasters and BCP shot blast, identified as P12b, shall not exceed 0.025 pound per ton of combined metal throughput;

- (j) The combined throughput of metal to the cleaning and grinding operation, P13, shall not exceed 45,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (k) Total PM emissions from dust collectors C07 and C15 controlling the cleaning and grinding operation, identified as P13, shall not exceed 0.012 pound per ton of combined metal throughput;
- (l) Total PM10 emissions from dust collectors C07 and C15 controlling the cleaning and grinding operation, identified as P13, shall not exceed 0.013 pound per ton of combined metal throughput;
- (m) The total throughput of sand to the mechanical reclamation system, P10, shall not exceed 250,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (n) Total PM emissions from dust collector C04 controlling the mechanical reclamation system, identified as P10, shall not exceed 0.107 pound per ton of sand throughput;
- (o) Total PM10 emissions from dust collector C04 controlling the mechanical reclamation system, identified as P10, shall not exceed 0.016 pound per ton of sand throughput;
- (p) The total throughput of sand to the thermal sand reclamation system, P11, shall not exceed 52,560 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (q) Total PM emissions from dust collector C05 controlling the thermal sand reclamation system shall not exceed 0.107 pound per ton of sand throughput;
- (r) Total PM10 emissions from dust collector C05 controlling the thermal sand reclamation system shall not exceed 0.016 pound per ton of sand throughput;
- (s) The Permittee shall increase the heights of stacks S04 and S05 from the existing stack height of 40 feet above ground to 50 feet above ground, within one (1) year after issuance of the Part 70 permit.

#### D.2.2 PSD Minor Limits [326 IAC 2-2]

- (a) The following limits shall limit PM and PM10 emissions from the following emission units so that the net emissions increase of PM and PM10 from the installation of these units are less than the PSD significant thresholds so that the requirements of 326 IAC 2-2 (PSD) do not apply:
  - (1) Total PM emissions from dust collector C01, controlling the high bay shakeout operation shall not exceed 49.37 pounds per hour;
  - (2) Total PM10 emissions from the dust collector C01, controlling the high bay shakeout operation shall not exceed 49.37 pounds per hour;
  - (3) Total PM emissions from the dust collector C04, controlling the mechanical sand reclamation operation shall not exceed 47.6 pounds per hour;
  - (4) Total PM10 emissions from the dust collector C04, controlling the mechanical sand reclamation operation shall not exceed 47.6 pounds per hour;
  - (5) Total PM emissions from the dust collector C05, controlling the thermal sand reclamation operation shall not exceed 13.62 pounds per hour;

- (6) Total PM10 emissions from the dust collector C05, controlling the thermal sand reclamation operation shall not exceed 13.62 pounds per hour;
  - (7) Total PM emissions from the dust collector C03, controlling the BCP shot blast shall not exceed 23.75 pounds per hour;
  - (8) Total PM10 emissions from the dust collector C03, controlling the BCP shot blast shall not exceed 23.75 pounds per hour.
- (b) The following limits will ensure that PM and PM10 emissions from the following units are less than 25 and 15 tons per year, respectively, so that the requirements of 326 IAC 2-2 (PSD) do not apply:
- (1) Total PM emissions from dust collector C02, controlling the center bay shakeout operation (P09b), installed in 1990, shall not exceed 5.68 pounds per hour;
  - (2) Total PM10 emissions from dust collector C02, controlling emissions from the center bay shakeout operation (P09b), installed in 1990, shall not exceed 3.4 pounds per hour;
  - (3) Total PM emissions from dust collector C09, controlling emissions from the magnesium treatment process station using wire injection (P05b), installed in 1994, shall not exceed 5.68 pounds per hour;
  - (4) Total PM10 emissions from dust collector C09, controlling emissions from the magnesium treatment process station using wire injection (P05b), installed in 1994, shall not exceed 3.4 pounds per hour;
  - (5) Total PM emissions from dust collector C14, controlling emissions from the magnesium treatment process station using wire injection (P05a), installed in 1998, shall not exceed 5.68 pounds per hour;
  - (6) Total PM10 emissions from dust collector C14, controlling emissions from the magnesium treatment process station using wire injection (P05a), installed in 1998, shall not exceed 3.4 pounds per hour;
  - (7) Pursuant to CP 091-10136-00018, issued on April 21, 1999, and CP 091-10594-00018, issued on July 22, 1999, total PM emissions from dust collector C04, controlling the mechanical sand reclamation operation (P10), modified in 1999, shall not exceed 5.48 pounds per hour average over three (3) hours.
  - (8) Pursuant to CP 091-10136-00018, issued on April 21, 1999, and CP 091-10594-00018, issued on July 22, 1999, total PM10 emissions from dust collector C04, controlling the mechanical sand reclamation operation (P10), modified in 1999, shall not exceed 3.40 pounds per hour average over three (3) hours.
  - (9) Pursuant to Significant Source Modification No. 091-14518-00018, issued on October 25, 2001, total PM emissions from dust collector C15, controlling one area of the cleaning and grinding operations (P13), modified in 2001, shall not exceed 5.7 pounds per hour, averaged over three (3) hours.
  - (10) Pursuant to Significant Source Modification No. 091-14518-00018, issued on October 25, 2001, total PM10 emissions from dust collector C15, controlling one area of the cleaning and grinding operations (P13), modified in 2001, shall not exceed 3.42 pounds per hour, averaged over three (3) hours.

### D.2.3 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the facilities listed in the table below shall be as follows:

Facility	Control Device	Process Weight Rate (tons/hr)	Emission Limit (lbs PM/hr)
Magnesium wire treatment processes P05a and P05b	Dust collector C14 and Room blast dust collector C09	13.76	23.75
High bay shakeout system P09a	high bay shakeout dust collector C01	82.56	49.37
Center bay shakeout system P09b	center bay shakeout dust collector C02	82.56	49.37
Mechanical reclamation system P10	mechanical reclaim dust collector C04	68.8	47.60
Thermal sand reclamation system P11	Dust collector C05	6.0	13.62
Pneumatic room blast operations P12a	room blast dust collector C09	1.376	5.08
Small casting blasters and BCP blast P12b	blast operations dust collector C03	13.76	23.75
Cleaning and grinding operations P13	Dust collectors C15 and C07	13.76	23.75

The pounds per hour limitations were calculated with the following equations:

Interpolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour; and  
P = process weight rate in tons per hour

or

Interpolation and extrapolation of the data for the process weight rate in excess of 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 55.0 P^{0.11} - 40$$

where E = rate of emission in pounds per hour; and  
P = process weight rate in tons per hour

### D.2.4 Volatile Organic Compounds (VOC) [326 IAC 8-1-6]

- VOC emissions from the high bay (P09a) shakeout operation shall not exceed 1.2 pounds of VOC per ton of metal throughput;
- The throughput of metal to the high bay (P09a) shakeout operation shall not exceed 41,500 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;
- VOC emissions from the center bay (P09b) shakeout operation shall not exceed 1.2 pounds of VOC per ton of metal throughput;
- The throughput of metal to the center bay (P09b) shakeout operation shall not exceed 41,500 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

The metal throughput limits and the VOC emission limits will insure that VOC emissions from each of the high bay shakeout operation and the center bay shakeout operation are limited to less than 25 tons per year. Therefore, compliance with this limit makes 326 IAC 8-1-6 (BACT) not applicable.

Compliance with the metal throughput limit and VOC emission limit for the high bay and center bay shakeout operations (P09a and P09b) will also render the requirements of 326 IAC 2-2 (PSD) not applicable for the high bay and center bay shakeout operations (P09a and P09b).

#### **D.2.5 Burning Regulations – Incinerators [326 IAC 4-2]**

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That pursuant to 326 IAC 4-2-2 (Incinerators) and CP 091-1937 issued December 6, 1990, the calciner, which is part of the thermal sand reclamation system, shall:

- (a) Consist of primary and secondary chambers or the equivalent.
- (b) Be equipped with a primary burner unless burning wood products.
- (c) Comply with 326 IAC 5-1 (Opacity Limitations) and 326 IAC 2 (Permit Review Rules).
- (d) Be maintained properly as specified by the manufacturer and approved by IDEM.
- (e) Be operated according to the manufacturer's recommendation and only burn waste approved by the IDEM.
- (f) Comply with other state and/or local rules or ordinances regarding installation and operation of incinerators.
- (g) Be operated so that emissions of hazardous material including, but not limited to, viable pathogenic bacteria, dangerous chemical or gases, or noxious odors are prevented.
- (h) Not create a nuisance or a fire hazard.
- (i) Not emit particulate matter (PM) in excess of 0.3 pound per 1000 pounds of dry exhaust gas corrected to 50% excess air.

The operation of this calciner shall be terminated immediately upon noncompliance with any of the above mentioned requirements.

#### **D.2.6 Preventive Maintenance Plan [326 IAC 2-7-5(13)]**

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A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for these facilities and their control devices.

### **Compliance Determination Requirements**

#### **D.2.7 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]**

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- (a) Within 180 days after issuance of this Part 70 permit, in order to demonstrate compliance with Conditions D.2.1, D.2.2, and D.2.3, the Permittee shall perform PM and PM10 testing on the magnesium wire treatment process exhausting through dust collectors C14 and C09, using methods as approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. PM10 includes filterable and condensable PM10. Testing shall be conducted in accordance with Section C- Performance Testing.

- (b) Within 180 days after issuance of this Part 70 permit, in order to demonstrate compliance with Conditions D.2.1, D.2.2, and D.2.3, the Permittee shall perform PM and PM10 testing on the mechanical reclamation system exhausting through dust collector C04 and the thermal sand reclamation system exhausting through dust collector C05 using methods as approved by the Commissioner. These tests shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. PM10 includes filterable and condensable PM10. Testing shall be conducted in accordance with Section C- Performance Testing.
- (c) Within 180 days after issuance of this Part 70 permit, in order to demonstrate compliance with Conditions D.2.1, D.2.2, and D.2.3, the Permittee shall perform PM and PM10 testing on the high bay shakeout operation exhausting through dust collector C01 and the center bay shakeout operation exhausting through dust collector C02 using methods as approved by the Commissioner, in order to demonstrate compliance with the particulate emission limits pursuant to 326 IAC 2-2 and 326 IAC 6-3-2. These tests shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with Section C- Performance Testing. PM10 includes filterable and condensable PM10.

#### D.2.7 Particulate Control

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In order to comply with conditions D.2.1, D.2.2, and D.2.3:

- (a) The dust collector C01 for particulate control shall be in operation and control emissions from the high bay shakeout system at all times that the high bay shakeout system is in operation;
- (b) The dust collector C02 for particulate control shall be in operation and control emissions from the center bay shakeout system at all times that the center bay shakeout system is in operation;
- (c) The dust collector C03 for particulate control shall be in operation and control emissions from the small casting blasters and BCP blast at all times that the small casting blasters and BCP blast are in operation;
- (d) The dust collector C04 for particulate control shall be in operation and control emissions from the mechanical reclamation system at all times that the mechanical reclamation system is in operation;
- (e) The dust collector C05 for particulate control shall be in operation and control emissions from the thermal sand reclamation system at all times that the thermal sand reclamation system is in operation;
- (f) The dust collectors C07 and C15 for particulate control shall be in operation and control emissions from the cleaning and grinding operation at all times that the cleaning and grinding operation is in operation;
- (g) The dust collector C09 for particulate control shall be in operation and control emissions from the magnesium wire treatment process (P05b) and the pneumatic room blast operation at all times that the magnesium wire treatment process (P05b) and the pneumatic room blast operation are in operation;
- (h) The dust collector C14 for particulate control shall be in operation and control emissions from the magnesium wire treatment process (P05a) at all times that the magnesium wire treatment process (P05a) is in operation.

#### Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

#### D.2.8 Visible Emissions Notations

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- (a) Visible emission notations of each of the dust collectors C01, C02, C03, C04, C05, C07, C09, C14, and C15 stack exhausts shall be performed once per shift during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.

- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) The Compliance Response Plan for these units shall contain troubleshooting contingency and response steps for when an abnormal emission is observed. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.

#### D.2.9 Parametric Monitoring

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The Permittee shall record the total static pressure drop across each of the dust collectors C01, C02, C03, C04, C05, C07, C09, C14, and C15 used in conjunction with the high and center bay shakeout operations, the small castings blasters and BCP shot blast, the mechanical reclamation system, the thermal sand reclamation system, the cleaning and grinding operation, the magnesium wire treatment process, and the pneumatic room blast operations, at least once per shift when their associated facilities are in operation when venting to the atmosphere. When for any one reading, the pressure drop across dust collector C01, C02, or C03 is outside the normal range of 3.0 and 9.0 inches of water or a range established during the latest stack test, or the pressure drop across dust collector C04 is outside the normal range of 4.0 and 9.0 inches of water or a range established during the latest stack test, or the pressure drop across dust collector C05 or C09 is outside the normal range of 2.0 and 6.0 inches of water or a range established during the latest stack test, or the pressure drop across dust collector C07, C14, or C15 is outside the normal range of 3.0 and 7.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C- Compliance Response Plan - Preparation, Implementation, Records, and Reports. A pressure reading that is outside the above mentioned ranges is not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.

The instrument used for determining the pressure shall comply with Section C - Pressure Gauge and Other Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated at least once every six (6) months.



#### D.2.10 Dust Collector Inspections

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An inspection shall be performed each calendar quarter of all bags controlling the high and center bay shakeout operations, the small castings blasters and BCP shot blast, the mechanical reclamation system, the thermal sand reclamation system, the cleaning and grinding operation, the magnesium wire treatment process, and the pneumatic room blast operations when venting to the atmosphere. A dust collector inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting to the indoors. All defective bags shall be replaced.

#### D.2.11 Broken or Failed Bag Detection

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In the event that bag failure has been observed:

- (a) For multi-compartment units, the affected compartments will be shut down immediately until the failed units have been repaired or replaced. Within eight (8) business hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) business hours of discovery of the failure and shall include a timetable for completion. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit. If operations continue after bag failure is observed and it will be 10 days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.
- (b) For single compartment dust collectors, if failure is indicated by a significant drop in the dust collector's pressure readings with abnormal visible emissions or the failure is indicated by an opacity violation, or if bag failure is determined by other means, such as gas temperatures, flow rates, air infiltration, leaks, dust traces or triboflows, then failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

### **Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

#### D.2.12 Record Keeping Requirements

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- (a) To document compliance with Condition D.2.1(a), (c), (e), and (g) and D.2.3(b), the Permittee shall maintain records of the throughput of metal to each of the magnesium wire treatment processes, the high and center bay shakeout operations, the pneumatic room blast operations, and the small castings blasters and BCP shot blast for each month. Records necessary to demonstrate compliance shall be available within 30 days of the end of each compliance period.
- (b) To document compliance with Condition D.2.1(i), the Permittee shall maintain records of the throughput of sand to the mechanical reclamation system for each month. Records necessary to demonstrate compliance shall be available within 30 days of the end of each compliance period.
- (c) To document compliance with Condition D.2.8, the Permittee shall maintain records of visible emission notations of each of the dust collectors stack exhausts once per shift.

- (d) To document compliance with Condition D.2.9, the Permittee shall maintain records once per shift of the total static pressure drop across each of the dust collectors during normal operation when venting to the atmosphere.
- (e) To document compliance with Condition D.2.10, the Permittee shall maintain records of the results of the inspections required under Condition D.2.10 and the dates the vents are redirected.
- (f) To document compliance with Condition D.2.5, the Permittee shall maintain records of any additional inspections prescribed by the Preventive Maintenance Plan.
- (g) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

#### D.2.13 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.2.1(a), (c), (e), and (g) and Condition D.2.3(b) shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

## SECTION D.3

## FACILITY OPERATION CONDITIONS

### Facility Description [326 IAC 2-7-5(15)]:

- (s) casting painting operation, referred to as process P14, utilizing air atomization spray, constructed in 1975, using a maximum of 7.25 pounds of coating per hour and 2.0 pounds of thinner per hour, with a dry filter for overspray control, and emissions exhausting to stack S11;
- (t) mold making operations, referred to as process P16, constructed prior to 1972, using phenolic no-bake and phenolic urethane no-bake binder systems with a maximum capacity of 68.8 tons of sand per hour, with emissions uncontrolled and exhausting inside the building;
- (u) core making operations, referred to as process P17, constructed prior to 1972 and modified in 1985, using phenolic no-bake, furan no-bake, and SO<sub>2</sub> binder systems with a maximum capacity of 68.8 tons of sand per hour, with SO<sub>2</sub> emissions controlled by a packed tower scrubber, referred to as C10, which exhausts to stack S10, and with particulate emissions controlled by the core room dust collector, referred to as C08, exhausting to stack S08;  
  
Note: The SO<sub>2</sub> scrubber is voluntarily installed and operated.
- (v) core and mold refractory wash coating operation, constructed prior to 1972, referred to as process P18, utilizing dip and flow coating, with emissions exhausting to stack S13;
- (w) one (1) pattern repair shop, referred to as process P20, constructed prior to 1972, including woodworking equipment for routine maintenance and repair of wood patterns, with emissions controlled by a dust collector, referred to as C07, and exhausting to stack S07.
- (x) pattern and core box release agent coating operation, referred to as process P20a, utilizing air atomization spray, constructed prior to 1972, with emissions exhausting inside the building.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

### Emission Limitations and Standards [326 IAC 2-7-5(1)]

#### D.3.1 Volatile Organic Compounds (VOCs) [326 IAC 8-1-6]

Pursuant to 326 IAC 8-1-6 (BACT) and CP 091-2238-00018, issued on January 21, 1994, the BACT for the mold making operations, referred to as P16, and the core making operations, referred to as P17, shall consist of the following:

- (a) The binder usage shall be limited to 30 pounds of binder per ton of sand used.
- (b) The resin usage shall be limited to 20 pounds of resin per ton of sand used.

#### D.3.2 General Provisions Relating to HAPs [326 IAC 20-1][40 CFR Part 63, Subpart A] [Table 2 to 40 CFR Part 63, Subpart M] [40 CFR 63.3901]

- (a) The provisions of 40 CFR Part 63, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 20-1-1, apply to the affected source, except when otherwise specified by Table 2 to 40 CFR Part 63, Subpart M. The Permittee must comply with these requirements on and after January 2, 2004.
- (b) Since the applicable requirements associated with the compliance options are not included and specifically identified in this permit, the permit shield authorized by the B section of this permit in the condition titled Permit Shield, and set out in 326 IAC 2-7-15 does not apply to paragraph (a) of this condition.

D.3.3 National Emission Standards for Hazardous Air Pollutants for Surface Coating of Miscellaneous Metal Parts and Products [40 CFR Part 63, Subpart Mmmm] [40 CFR 63.3882] [40 CFR 63.3883] [40 CFR 63.3980]

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- (a) The provisions of 40 CFR Part 63, Subpart Mmmm (National Emission Standards for Hazardous Air Pollutants for Surface Coating of Miscellaneous Metal Parts and Products) apply to the affected source. A copy of this rule is available on the US EPA Air Toxics Website at <http://www.epa.gov/ttn/atw/misc/miscpg.html>. Pursuant to 40 CFR 63.3883(b), the Permittee must comply with these requirements on and after January 2, 2007.
- (b) Since the applicable requirements associated with the compliance options are not included and specifically identified in this permit, the permit shield authorized by the B section of this permit in the condition titled Permit Shield, and set out in 326 IAC 2-7-15 does not apply to paragraph (a) of this condition.
- (c) The affected source is the collection of all of the items listed in 40 CFR 63.3882, paragraphs (b)(1) through (4) that are used for surface coating of miscellaneous metal parts and products within each subcategory as defined in 40 CFR 63.3881(a), paragraphs (2) through (6).
  - (1) All coating operations as defined in 40 CFR 63.3981;
  - (2) All storage containers and mixing vessels in which coatings, thinners and/or other additives, and cleaning materials are stored or mixed;
  - (3) All manual and automated equipment and containers used for conveying coatings, thinners and/or other additives, and cleaning materials; and
  - (4) All storage containers and all manual and automated equipment and containers used for conveying waste materials generated by a coating operation.
- (d) Terminology used in this section is defined in the CAA, in 40 CFR Part 63, Section 63.2, and in 40 CFR 63.3980, and is applicable to the affected source.

D.3.4 Prevention of Significant Deterioration (PSD) [326 IAC 2-2]

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- (a) The following limits shall apply pursuant to 326 IAC 2-2 so that the results of the air dispersion modeling analysis performed in support of the PSD BACT determination in condition D.1.1 do not exceed any of the National Ambient Air Quality Standards (NAAQS) or PSD Increment values:
  - (1) Total PM emissions from dust collector C08 controlling the core making operations shall not exceed 0.16 pound per ton of sand throughput;
  - (2) Total PM10 emissions from dust collector C08 controlling the core making operations shall not exceed 0.024 pound per ton of sand throughput.
  - (3) The throughput of sand to the core making operations, P17, shall not exceed 70,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (b) The following limits, which will ensure that the VOC emissions increase for the modification in 1990 do not exceed 100 tons per year, will exempt the source from the requirement to perform an air quality analysis for VOC:
  - (1) The usage of VOC in the pattern and core box release agent coating operation (P20a) shall not exceed 86,500 pounds per twelve (12) consecutive month period, with compliance determined at the end of each month;

- (2) The throughput of foam in the expendable pattern casting operation (P08) shall not exceed 200,000 pounds per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (3) Emissions of VOC from the expendable pattern casting operation (P08) shall not exceed 0.1186 pound of VOC per pound of foam throughput.

#### D.3.5 Particulate Matter (PM) [40 CFR 52 Subpart P]

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Pursuant to 40 CFR 52 Subpart P, the PM from the casting painting operation, referred to as process P14, shall not exceed the pound per hour emission rate established as E in the following formula:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour; and} \\ P = \text{process weight rate in tons per hour}$$

#### D.3.6 Particulate [326 IAC 6-3-2(d)]

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Pursuant to 326 IAC 6-3-2(d), particulate from the casting painting operation shall be controlled by a dry particulate filter, and the Permittee shall operate the control device in accordance with manufacturer's specifications. This requirement to operate the control is not federally enforceable.

#### D.3.7 Particulate [326 IAC 6-3-2]

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- (a) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the core sand handling operation shall not exceed 47.6 pounds per hour when operating at a process weight rate of 68.8 tons per hour.

The pounds per hour limitation was calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate in excess of 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 55.0 P^{0.11} - 40 \quad \text{where } E = \text{rate of emission in pounds per hour; and} \\ P = \text{process weight rate in tons per hour}$$

- (b) Pursuant to 326 IAC 6-3-2(e)(2), particulate emissions from any process not exempt under 326 IAC 6-3-1(b) or (c) which has a maximum process weight rate less than 100 pounds per hour and the methods in 326 IAC 6-3-2(b) through (d) do not apply shall not exceed 0.551 pounds per hour. This limit applies to the woodworking equipment in the pattern repair shop.

#### D.3.8 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

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A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for these facilities and their control devices.

### Compliance Determination Requirements

#### D.3.9 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]

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Within 180 days after issuance of this Part 70 permit, in order to demonstrate compliance with Conditions D.3.4 and D.3.7, the Permittee shall perform PM and PM10 testing on the core sand handling operation exhausting through dust collector C08 using methods as approved by the Commissioner. These tests shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. PM10 includes filterable and condensable PM10. Testing shall be conducted in accordance with Section C- Performance Testing.

#### D.3.10 Particulate Control

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In order to comply with conditions D.3.4 and D.3.7, the dust collectors C08 and C07 for particulate control shall be in operation and control emissions from the core sand handling operation and the woodworking equipment in the pattern repair shop at all times that the core sand handling and the woodworking equipment in the pattern repair shop are in operation.

#### **Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]**

#### D.3.11 Monitoring

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- (a) Daily inspections shall be performed to verify the placement, integrity and particle loading of the filters associated with the casting painting operation. To monitor the performance of the dry filters, weekly observations shall be made of the overspray from the surface coating booth stack (S11) while the booth is in operation. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.
- (b) Monthly inspections shall be performed of the coating emissions from the stack and the presence of overspray on the rooftops and the nearby ground. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when a noticeable change in overspray emission, or evidence of overspray emission is observed. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.
- (c) Additional inspections and preventive measures shall be performed as prescribed in the Preventive Maintenance Plan.

#### D.3.12 Visible Emissions Notations

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- (a) Visible emission notations of the dust collector C08 stack exhaust shall be performed once per shift during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed. Failure to take response steps in accordance with Section C - Compliance Response Plan – Preparation, Implementation, Records and Reports shall be considered a deviation from this permit.

#### D.3.13 Parametric Monitoring

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The Permittee shall record the total static pressure drop across the dust collector C08 used in conjunction with the core sand handling operation, at least once per shift when the process is in operation when venting to the atmosphere. When for any one reading, the pressure drop across the dust collector is outside the normal range of 4.0 and 9.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C- Compliance Response Plan - Preparation, Implementation, Records, and Reports. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan – Preparation, Implementation, Records and Reports shall be considered a deviation from this permit.

The instrument used for determining the pressure shall comply with Section C - Pressure Gauge and Other Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated at least once every six (6) months.

#### D.3.14 Dust Collector Inspections

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An inspection shall be performed each calendar quarter of all bags controlling the core sand handling operation when venting to the atmosphere. A dust collector inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting to the indoors. Inspections required by this condition shall not be performed in consecutive months. All defective bags shall be replaced.

#### D.3.15 Broken or Failed Bag Detection

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In the event that bag failure has been observed:

- (a) For multi-compartment units, the affected compartments will be shut down immediately until the failed units have been repaired or replaced. Within eight (8) business hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) business hours of discovery of the failure and shall include a timetable for completion. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit. If operations continue after bag failure is observed and it will be 10 days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.
- (b) For single compartment dust collectors, if failure is indicated by a significant drop in the dust collector's pressure readings with abnormal visible emissions or the failure is indicated by an opacity violation, or if bag failure is determined by other means, such as gas temperatures, flow rates, air infiltration, leaks, dust traces or triboflows, then failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

**Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

**D.3.16 Notification Requirements [40 CFR 63.3910]**

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- (a) General. The Permittee must submit the applicable notifications in 40 CFR Part 63, Sections 63.7(b) and (c), 63.8(f)(4), and 63.9(b) through (e) and (h) by the dates specified in those sections, except as provided in 40 CFR 63.3910, paragraphs (b) and (c).
- (b) Initial notification. The Permittee must submit the initial notification required by 40 CFR 63.9(b) for a new or reconstructed affected source no later than 120 days after initial startup or 120 days after January 2, 2004, whichever is later. For an existing affected source, the Permittee must submit the initial notification no later than January 2, 2005. If using compliance with the Surface Coating of Automobiles and Light-Duty Trucks NESHAP (40 CFR Part 63, Subpart IIII) as provided for under 40 CFR 63.3881(d) to constitute compliance with this subpart for any or all of the metal parts coating operations, then the Permittee must include a statement to this effect in the initial notification, and no other notifications are required under this subpart in regard to those metal parts coating operations. If complying with another NESHAP that constitutes the predominant activity at the facility under 40 CFR 63.3881(e)(2) to constitute compliance with this subpart for the metal parts coating operations, then the Permittee must include a statement to this effect in the initial notification, and no other notifications are required under this subpart in regard to those metal parts coating operations.
- (c) Notification of compliance status. The Permittee must submit the notification of compliance status required by 40 CFR 63.9(h) no later than 30 calendar days following the end of the initial compliance period described in 40 CFR Part 63, Sections 63.3940, 63.3950, or 63.3960 that applies to the affected source. The notification of compliance status must contain the information specified in 40 CFR 63.3910(c), paragraphs (1) through (11) and any additional information specified in 40 CFR 63.9(h).

**D.3.17 Requirement to Submit a Significant Permit Modification Application [326 IAC 2-7-12][326 IAC 2-7-5]**

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The Permittee shall submit an application for a significant permit modification to IDEM, OAQ to include information regarding which compliance option or options will be chosen in the Part 70 permit.

- (a) The significant permit modification application shall be consistent with 326 IAC 2-7-12, including information sufficient for IDEM, OAQ to incorporate into the Part 70 permit the applicable requirements of 40 CFR 63, Subpart Mmmm, a description of the affected source and activities subject to the standard, and a description of how the Permittee will meet the applicable requirements of the standard.
- (b) The significant permit modification application shall be submitted no later than April 2, 2006.
- (c) The significant permit modification application shall be submitted to:

Indiana Department of Environmental Management  
Permits Branch, Office of Air Quality  
100 North Senate Avenue, P.O. Box 6015  
Indianapolis, Indiana 46206-6015

**D.3.18 Record Keeping Requirements**

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- (a) To document compliance with Condition D.3.1, the Permittee shall maintain a record of the binder usage and the resin usage on a monthly basis.



- (b) To document compliance with Condition D.3.4(c), the Permittee shall maintain records of the throughput of sand to the core sand handling operation for each month. Records necessary to demonstrate compliance shall be available within 30 days of the end of each compliance period.
- (c) To document compliance with Condition D.3.11, the Permittee shall maintain a log of weekly overspray observations, daily and monthly inspections, and those additional inspections prescribed by the Preventive Maintenance Plan.
- (d) To document compliance with Condition D.3.12, the Permittee shall maintain records of visible emission notations of the dust collector stack exhaust once per shift.
- (e) To document compliance with Condition D.3.13, the Permittee shall maintain records once per shift of the total static pressure drop across the dust collector during normal operation when venting to the atmosphere.
- (f) To document compliance with Condition D.3.14, the Permittee shall maintain records of the results of the inspections required under Condition D.3.14 and the dates the vents are redirected.
- (g) To document compliance with Condition D.3.8, the Permittee shall maintain records of any additional inspections prescribed by the Preventive Maintenance Plan.
- (h) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

#### D.3.19 Reporting Requirements

A quarterly summary of the information to document compliance with Conditions D.3.1 and D.3.4(c) shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

**SECTION D.4**

**FACILITY OPERATION CONDITIONS**

**Facility Description [326 IAC 2-7-5(15)]:**

- (a) Degreasing operations that do not exceed 145 gallons per 12 months, except if subject to 326 IAC 20-6: one (1) Safety Kleen maintenance parts washer with a remote solvent reservoir. [326 IAC 8-3-2]
- (b) The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, welding equipment. [326 IAC 6-3-2]
- (c) Grinding and machining operations controlled with fabric filters, scrubbers, mist collectors, wet collectors and electrostatic precipitators with a design grain loading of less than or equal to 0.03 grains per actual cubic foot and a gas flow rate less than or equal to 4000 actual cubic feet per minute, including the following: deburring; buffing; polishing; abrasive blasting; pneumatic conveying; and woodworking operations. [326 IAC 6-3-2]

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

**Cold Cleaner Operations**

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**

**D.4.1 Volatile Organic Compounds (VOC) [326 IAC 8-3-2]**

Pursuant to 326 IAC 8-3-2 (Cold Cleaner Operations), for cold cleaning operations constructed after January 1, 1980, the Permittee shall:

- (a) Equip the cleaner with a cover;
- (b) Equip the cleaner with a facility for draining cleaned parts;
- (c) Close the degreaser cover whenever parts are not being handled in the cleaner;
- (d) Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases;
- (e) Provide a permanent, conspicuous label summarizing the operation requirements;
- (f) Store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a manner that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere.

**Process Weight Activities**

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**

**D.4.2 Particulate [326 IAC 6-3-2]**

Pursuant to 326 IAC 6-3-2(e)(2), particulate emissions from any process not exempt under 326 IAC 6-3-1(b) or (c) which has a maximum process weight rate less than 100 pounds per hour and the methods in 326 IAC 6-3-2(b) through (d) do not apply shall not exceed 0.551 pounds per hour. This limit applies to the following insignificant activities:

- (a) The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, welding equipment.

- (b) Grinding and machining operations controlled with fabric filters, scrubbers, mist collectors, wet collectors and electrostatic precipitators with a design grain loading of less than or equal to 0.03 grains per actual cubic foot and a gas flow rate less than or equal to 4000 actual cubic feet per minute, including the following: deburring; buffing; polishing; abrasive blasting; pneumatic conveying; and woodworking operations.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY**

**PART 70 OPERATING PERMIT  
CERTIFICATION**

Source Name: Casting Service  
Source Address: 300 Philadelphia Street, LaPorte, Indiana 46350  
Mailing Address: 300 Philadelphia Street, LaPorte, Indiana 46350  
Part 70 Permit No.: T091-6141-00018

**This certification shall be included when submitting monitoring, testing reports/results or other documents as required by this permit.**

Please check what document is being certified:

- ☐ Annual Compliance Certification Letter
- ☐ Test Result (specify)
- ☐ Report (specify)
- ☐ Notification (specify)
- ☐ Affidavit (specify)
- ☐ Other (specify)

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Signature:

Printed Name:

Title/Position:

Phone:

Date:

**DRAFT**

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
COMPLIANCE BRANCH  
100 North Senate Avenue  
P.O. Box 6015  
Indianapolis, Indiana 46206-6015  
Phone: 317-233-5674  
Fax: 317-233-5967**

**PART 70 OPERATING PERMIT  
EMERGENCY OCCURRENCE REPORT**

Source Name: Casting Service  
Source Address: 300 Philadelphia Street, LaPorte, Indiana 46350  
Mailing Address: 300 Philadelphia Street, LaPorte, Indiana 46350  
Part 70 Permit No.: T091-6141-00018

**This form consists of 2 pages**

**Page 1 of 2**

- ☐ This is an emergency as defined in 326 IAC 2-7-1(12)
- C The Permittee must notify the Office of Air Quality (OAQ), within four (4) business hours (1-800-451-6027 or 317-233-5674, ask for Compliance Section); and
  - C The Permittee must submit notice in writing or by facsimile within two (2) working days (Facsimile Number: 317-233-5967), and follow the other requirements of 326 IAC 2-7-16.

If any of the following are not applicable, mark N/A

Facility/Equipment/Operation:
Control Equipment:
Permit Condition or Operation Limitation in Permit:
Description of the Emergency:
Describe the cause of the Emergency:

If any of the following are not applicable, mark N/A

Page 2 of 2

Date/Time Emergency started:
Date/Time Emergency was corrected:
Was the facility being properly operated at the time of the emergency?    Y    N
Type of Pollutants Emitted: TSP, PM-10, SO <sub>2</sub> , VOC, NO <sub>x</sub> , CO, Pb, other:
Estimated amount of pollutant(s) emitted during emergency:
Describe the steps taken to mitigate the problem:
Describe the corrective actions/response steps taken:
Describe the measures taken to minimize emissions:
If applicable, describe the reasons why continued operation of the facilities are necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw materials of substantial economic value:

Form Completed by:

Title / Position:

Date:

Phone:

A certification is not required for this report.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
COMPLIANCE DATA SECTION**

**Part 70 Quarterly Report**

Source Name: Casting Service  
Source Address: 300 Philadelphia Street, LaPorte, Indiana 46350  
Mailing Address: 300 Philadelphia Street, LaPorte, Indiana 46350  
Part 70 Permit No.: T091-6141-00018  
Facility: electric induction furnaces, scrap and charge handling process, and inoculation process  
Parameter: PM and PM10 emissions  
Limit: The throughput of metal to the electric induction furnaces, the scrap and charge handling process, and the inoculation process, shall not exceed 60,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

YEAR:

Month	Column 1	Column 2	Column 1 + Column 2
	Metal Throughput This Month (tons)	Metal Throughput Previous 11 Months (tons)	12 Month Total Metal Throughput (tons)
Month 1			
Month 2			
Month 3			

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.  
Deviation has been reported on:

Submitted by:  
Title / Position:  
Signature:  
Date:  
Phone:

Attach a signed certification to complete this report.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
COMPLIANCE DATA SECTION**

**Part 70 Quarterly Report**

Source Name: Casting Service  
Source Address: 300 Philadelphia Street, LaPorte, Indiana 46350  
Mailing Address: 300 Philadelphia Street, LaPorte, Indiana 46350  
Part 70 Permit No.: T091-6141-00018  
Facility: pouring and casting operation, and casting cooling operation  
Parameter: PM and PM10 emissions  
Limit: The throughput of metal to the pouring and casting operation, and the casting cooling operation shall not exceed 60,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

YEAR:

Month	Column 1	Column 2	Column 1 + Column 2
	Metal Throughput This Month (tons)	Metal Throughput Previous 11 Months (tons)	12 Month Total Metal Throughput (tons)
Month 1			
Month 2			
Month 3			

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.  
Deviation has been reported on:

Submitted by:  
Title / Position:  
Signature:  
Date:  
Phone:

Attach a signed certification to complete this report.



**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
COMPLIANCE DATA SECTION**

**Part 70 Quarterly Report**

Source Name: Casting Service  
Source Address: 300 Philadelphia Street, LaPorte, Indiana 46350  
Mailing Address: 300 Philadelphia Street, LaPorte, Indiana 46350  
Part 70 Permit No.: T091-6141-00018  
Facility: magnesium wire treatment process, P05a and P05b, and pneumatic room blast operations, P12a  
Parameter: PM and PM10 emissions  
Limit: The combined throughput of metal to the magnesium wire treatment processes, P05a and P05b, and the pneumatic room blast operations, P12a, shall not exceed 54,500 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;

YEAR:

Month	Column 1	Column 2	Column 1 + Column 2
	Combined Metal Throughput This Month (tons)	Combined Metal Throughput Previous 11 Months (tons)	12 Month Total Combined Metal Throughput (tons)
Month 1			
Month 2			
Month 3			

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.  
Deviation has been reported on:

Submitted by:  
Title / Position:  
Signature:  
Date:  
Phone:

Attach a signed certification to complete this report.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
COMPLIANCE DATA SECTION**

**Part 70 Quarterly Report**

Source Name: Casting Service  
Source Address: 300 Philadelphia Street, LaPorte, Indiana 46350  
Mailing Address: 300 Philadelphia Street, LaPorte, Indiana 46350  
Part 70 Permit No.: T091-6141-00018  
Facility: high and center bay shakeout operations, P09a and P09b  
Parameter: PM and PM10 emissions  
Limit: The combined throughput of metal to the high and center bay shakeout operations, P09a and P09b, shall not exceed 45,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;

YEAR:

Month	Column 1	Column 2	Column 1 + Column 2
	Combined Metal Throughput This Month (tons)	Combined Metal Throughput Previous 11 Months (tons)	12 Month Total Combined Metal Throughput (tons)
Month 1			
Month 2			
Month 3			

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.  
Deviation has been reported on:

Submitted by:  
Title / Position:  
Signature:  
Date:  
Phone:

Attach a signed certification to complete this report.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
COMPLIANCE DATA SECTION**

**Part 70 Quarterly Report**

Source Name: Casting Service  
Source Address: 300 Philadelphia Street, LaPorte, Indiana 46350  
Mailing Address: 300 Philadelphia Street, LaPorte, Indiana 46350  
Part 70 Permit No.: T091-6141-00018  
Facility: small castings blasters and BCP shot blast, P12b  
Parameter: PM and PM10 emissions  
Limit: The total combined throughput of metal to the small castings blasters and BCP shot blast, P12b, shall not exceed 45,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

YEAR:

Month	Column 1	Column 2	Column 1 + Column 2
	Combined Metal Throughput This Month (tons)	Combined Metal Throughput Previous 11 Months (tons)	12 Month Total Combined Metal Throughput (tons)
Month 1			
Month 2			
Month 3			

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.  
Deviation has been reported on:

Submitted by:  
Title / Position:  
Signature:  
Date:  
Phone:

Attach a signed certification to complete this report.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
COMPLIANCE DATA SECTION**

**Part 70 Quarterly Report**

Source Name: Casting Service  
Source Address: 300 Philadelphia Street, LaPorte, Indiana 46350  
Mailing Address: 300 Philadelphia Street, LaPorte, Indiana 46350  
Part 70 Permit No.: T091-6141-00018  
Facility: the cleaning and grinding operation, P13  
Parameter: PM and PM10 emissions  
Limit: The total combined throughput of metal to the cleaning and grinding operation, P13, shall not exceed 45,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

YEAR:

Month	Column 1	Column 2	Column 1 + Column 2
	Combined Metal Throughput This Month (tons)	Combined Metal Throughput Previous 11 Months (tons)	12 Month Total Combined Metal Throughput (tons)
Month 1			
Month 2			
Month 3			

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.  
Deviation has been reported on:

Submitted by:  
Title / Position:  
Signature:  
Date:  
Phone:

Attach a signed certification to complete this report.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
COMPLIANCE DATA SECTION**

**Part 70 Quarterly Report**

Source Name: Casting Service  
Source Address: 300 Philadelphia Street, LaPorte, Indiana 46350  
Mailing Address: 300 Philadelphia Street, LaPorte, Indiana 46350  
Part 70 Permit No.: T091-6141-00018  
Facility: mechanical reclamation system, P10  
Parameter: PM and PM10 emissions  
Limit: The total throughput of sand to the mechanical reclamation system, P10, shall not exceed 250,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

YEAR:

Month	Column 1	Column 2	Column 1 + Column 2
	Sand Throughput This Month (tons)	Sand Throughput Previous 11 Months (tons)	12 Month Total Sand Throughput (tons)
Month 1			
Month 2			
Month 3			

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.  
Deviation has been reported on:

Submitted by:  
Title / Position:  
Signature:  
Date:  
Phone:

Attach a signed certification to complete this report.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
COMPLIANCE DATA SECTION**

**Part 70 Quarterly Report**

Source Name: Casting Service  
Source Address: 300 Philadelphia Street, LaPorte, Indiana 46350  
Mailing Address: 300 Philadelphia Street, LaPorte, Indiana 46350  
Part 70 Permit No.: T091-6141-00018  
Facility: thermal sand reclamation system, P11  
Parameter: PM and PM10 emissions  
Limit: The total throughput of sand to the thermal sand reclamation system, P11, shall not exceed 52,560 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

YEAR:

Month	Column 1	Column 2	Column 1 + Column 2
	Sand Throughput This Month (tons)	Sand Throughput Previous 11 Months (tons)	12 Month Total Sand Throughput (tons)
Month 1			
Month 2			
Month 3			

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.  
Deviation has been reported on:

Submitted by:  
Title / Position:  
Signature:  
Date:  
Phone:

Attach a signed certification to complete this report.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
COMPLIANCE DATA SECTION**

**Part 70 Quarterly Report**

Source Name: Casting Service  
Source Address: 300 Philadelphia Street, LaPorte, Indiana 46350  
Mailing Address: 300 Philadelphia Street, LaPorte, Indiana 46350  
Part 70 Permit No.: T091-6141-00018  
Facility: high bay (P09a) shakeout operation  
Parameter: VOC emissions  
Limit: The throughput of metal to the high bay (P09a) shakeout operation shall not exceed 41,500 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

YEAR:

Month	Column 1	Column 2	Column 1 + Column 2
	Metal Throughput This Month (tons)	Metal Throughput Previous 11 Months (tons)	12 Month Total Metal Throughput (tons)
Month 1			
Month 2			
Month 3			

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.  
Deviation has been reported on:

Submitted by:  
Title / Position:  
Signature:  
Date:  
Phone:

Attach a signed certification to complete this report.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
COMPLIANCE DATA SECTION**

**Part 70 Quarterly Report**

Source Name: Casting Service  
Source Address: 300 Philadelphia Street, LaPorte, Indiana 46350  
Mailing Address: 300 Philadelphia Street, LaPorte, Indiana 46350  
Part 70 Permit No.: T091-6141-00018  
Facility: center bay (P09b) shakeout operation  
Parameter: VOC emissions  
Limit: The throughput of metal to the center bay (P09b) shakeout operation shall not exceed 41,500 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

YEAR:

Month	Column 1	Column 2	Column 1 + Column 2
	Metal Throughput This Month (tons)	Metal Throughput Previous 11 Months (tons)	12 Month Total Metal Throughput (tons)
Month 1			
Month 2			
Month 3			

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.  
Deviation has been reported on:

Submitted by:  
Title / Position:  
Signature:  
Date:  
Phone:

Attach a signed certification to complete this report.



**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
COMPLIANCE DATA SECTION**

**Part 70 Quarterly Report**

Source Name: Casting Service  
Source Address: 300 Philadelphia Street, LaPorte, Indiana 46350  
Mailing Address: 300 Philadelphia Street, LaPorte, Indiana 46350  
Part 70 Permit No.: T091-6141-00018  
Facility: pattern and core box release agent coating operation  
Parameter: VOC emissions  
Limit: The usage of VOC in the pattern and core box release agent coating operation (P20a) shall not exceed 86,500 pounds per twelve (12) consecutive month period, with compliance determined at the end of each month;

YEAR:

Month	Column 1	Column 2	Column 1 + Column 2
	VOC Usage This Month (tons)	VOC Usage Previous 11 Months (tons)	12 Month Total VOC Usage (tons)
Month 1			
Month 2			
Month 3			

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.  
Deviation has been reported on:

Submitted by:  
Title / Position:  
Signature:  
Date:  
Phone:

Attach a signed certification to complete this report.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
COMPLIANCE DATA SECTION**

**Part 70 Quarterly Report**

Source Name: Casting Service  
Source Address: 300 Philadelphia Street, LaPorte, Indiana 46350  
Mailing Address: 300 Philadelphia Street, LaPorte, Indiana 46350  
Part 70 Permit No.: T091-6141-00018  
Facility: expendable pattern casting operation  
Parameter: VOC emissions  
Limit: The throughput of foam in the expendable pattern casting operation (P08) shall not exceed 200,000 pounds per twelve (12) consecutive month period, with compliance determined at the end of each month;

YEAR:

Month	Column 1	Column 2	Column 1 + Column 2
	Foam Usage This Month (tons)	Foam Usage Previous 11 Months (tons)	12 Month Total Foam Usage (tons)
Month 1			
Month 2			
Month 3			

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.  
Deviation has been reported on:

Submitted by:  
Title / Position:  
Signature:  
Date:  
Phone:

Attach a signed certification to complete this report.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
COMPLIANCE DATA SECTION**

**Part 70 Quarterly Report**

Source Name: Casting Service  
Source Address: 300 Philadelphia Street, LaPorte, Indiana 46350  
Mailing Address: 300 Philadelphia Street, LaPorte, Indiana 46350  
Part 70 Permit No.: T091-6141-00018  
Facility: mold making operations, P16, and core making operations, P17  
Parameter: VOC emissions  
Limit: (1) The binder usage shall be limited to 30 pounds of binder per ton of sand used.  
(2) The resin usage shall be limited to 20 pounds of resin per ton of sand used.

YEAR:

Month	Column 1		Column 2		Column 1 + Column 2	
	Binder Usage This Month (lb/ton sand)	Resin Usage This Month (lb/ton sand)	Binder Usage Previous 11 Months (lb/ton sand)	Resin Usage Previous 11 Months (lb/ton sand)	12 Month Total Binder Usage (lb/ton sand)	12 Month Total Resin Usage (lb/ton sand)
Month 1						
Month 2						
Month 3						

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.  
Deviation has been reported on:

Submitted by:  
Title / Position:  
Signature:  
Date:  
Phone:

Attach a signed certification to complete this report.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
COMPLIANCE DATA SECTION**

**Part 70 Quarterly Report**

Source Name: Casting Service  
Source Address: 300 Philadelphia Street, LaPorte, Indiana 46350  
Mailing Address: 300 Philadelphia Street, LaPorte, Indiana 46350  
Part 70 Permit No.: T091-6141-00018  
Facility: core making operations, P17  
Parameter: PM and PM10 emissions  
Limit: The throughput of sand to the core making operations, P17, shall not exceed 70,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

YEAR:

Month	Column 1	Column 2	Column 1 + Column 2
	Sand Throughput This Month (tons)	Sand Throughput Previous 11 Months (tons)	12 Month Total Sand Throughput (tons)
Month 1			
Month 2			
Month 3			

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.  
Deviation has been reported on:

Submitted by:  
Title / Position:  
Signature:  
Date:  
Phone:

Attach a signed certification to complete this report.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
COMPLIANCE DATA SECTION**

**PART 70 OPERATING PERMIT  
QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT**

Source Name: Casting Service  
Source Address: 300 Philadelphia Street, LaPorte, Indiana 46350  
Mailing Address: 300 Philadelphia Street, LaPorte, Indiana 46350  
Part 70 Permit No.: T091-6141-00018

Months: \_\_\_\_\_ to \_\_\_\_\_ Year: \_\_\_\_\_

Page 1 of 2

This report shall be submitted quarterly based on a calendar year. Any deviation from the requirements, the date(s) of each deviation, the probable cause of the deviation, and the response steps taken must be reported. A deviation required to be reported pursuant to an applicable requirement that exists independent of the permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. Additional pages may be attached if necessary. If no deviations occurred, please specify in the box marked "No deviations occurred this reporting period".

☐ NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.

☐ THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD

**Permit Requirement** (specify permit condition #)

**Date of Deviation:**

**Duration of Deviation:**

**Number of Deviations:**

**Probable Cause of Deviation:**

**Response Steps Taken:**

**Permit Requirement** (specify permit condition #)

**Date of Deviation:**

**Duration of Deviation:**

**Number of Deviations:**

**Probable Cause of Deviation:**

**Response Steps Taken:**

**DRAFT**

Page 2 of 2

<b>Permit Requirement</b> (specify permit condition #)	
<b>Date of Deviation:</b>	<b>Duration of Deviation:</b>
<b>Number of Deviations:</b>	
<b>Probable Cause of Deviation:</b>	
<b>Response Steps Taken:</b>	
<b>Permit Requirement</b> (specify permit condition #)	
<b>Date of Deviation:</b>	<b>Duration of Deviation:</b>
<b>Number of Deviations:</b>	
<b>Probable Cause of Deviation:</b>	
<b>Response Steps Taken:</b>	
<b>Permit Requirement</b> (specify permit condition #)	
<b>Date of Deviation:</b>	<b>Duration of Deviation:</b>
<b>Number of Deviations:</b>	
<b>Probable Cause of Deviation:</b>	
<b>Response Steps Taken:</b>	

Form Completed By:

Title/Position:

Date:

Phone:

Attach a signed certification to complete this report.

## **Indiana Department of Environmental Management Office of Air Quality**

### **Technical Support Document (TSD) for a Part 70 Operating Permit and Prevention of Significant Deterioration (PSD) Permit**

#### **Source Background and Description**

**Source Name:** Casting Service  
**Source Location:** 300 Philadelphia Street, LaPorte, Indiana 46350  
**County:** LaPorte  
**SIC Code:** 3321  
**Operation Permit No.:** T091-6141-00018  
**Permit Reviewer:** Trish Earls/EVP

The Office of Air Quality (OAQ) has reviewed a Part 70 and Prevention of Significant Deterioration (PSD) permit application from Casting Service relating to the operation of a gray and ductile iron foundry.

#### **Permitted Emission Units and Pollution Control Equipment**

The source consists of the following permitted emission units and pollution control devices:

- (a) one (1) electric induction furnace, referred to as F1, constructed in 1977, with a maximum capacity of 1.67 tons of iron per hour, with emissions controlled by the melt shop dust collector, referred to as C06, and exhausting to stack S06;
- (b) one (1) electric induction furnace, referred to as F2, constructed in 1982, with a maximum capacity of 2.92 tons of iron per hour, with emissions controlled by the melt shop dust collector, referred to as C06, and exhausting to stack S06;
- (c) one (1) electric induction furnace, referred to as F3, constructed in 1982, with a maximum capacity of 2.92 tons of iron per hour, with emissions controlled by the melt shop dust collector, referred to as C06, and exhausting to stack S06;
- (d) one (1) electric induction furnace, referred to as F4, constructed in 1985, with a maximum capacity of 2.92 tons of iron per hour, with emissions controlled by the melt shop dust collector, referred to as C06, and exhausting to stack S06;
- (e) one (1) electric induction furnace, referred to as F5, constructed in 1990, with a maximum capacity of 3.33 tons of iron per hour, with emissions controlled by the melt shop dust collector, referred to as C06, and exhausting to stack S06;
- (f) one (1) magnesium treatment process station using wire injection, referred to as process P05a, constructed in 1998, with a maximum capacity of 13.76 tons of iron per hour, with emissions controlled by dust collector C14, and exhausting to stack S14;
- (g) One (1) shakeout system, consisting of the following:

- (1) one (1) high bay shakeout system, referred to as process P09a, constructed in 1991, with a maximum throughput capacity of 13.76 tons of metal per hour and 68.8 tons of sand per hour, with emissions controlled by the high bay shakeout dust collector, referred to as C01, and exhausting to stack S01;
- (2) one (1) center bay shakeout system, referred to as process P09b, constructed in 1990, with a maximum throughput capacity of 13.76 tons of metal per hour and 68.8 tons of sand per hour, with emissions controlled by the center bay shakeout dust collector, referred to as C02, and exhausting to stack S02;
- (h) one (1) mechanical reclamation system, referred to as process P10, constructed in 1991 and modified in 1999, with a maximum capacity of 68.8 tons of sand per hour, including one (1) Didion rotary lump crusher and one (1) rotoconditioner with emissions controlled by the mechanical reclaim dust collector, referred to as C04, and exhausting to stack S04;
- (i) two (2) pneumatic sand transporters for the mechanical reclamation system, constructed in 1999, each with a maximum capacity of 15 tons of sand per hour, with emissions controlled by dust collector C05, exhausting to stack S05;
- (j) one (1) thermal sand reclamation system including a natural gas-fired calcining unit, with a maximum heat input capacity of 6.0 million British thermal units (MMBtu) per hour, referred to as process P11, constructed in 1991, with a maximum capacity of 6.0 tons of sand per hour, with emissions controlled by the thermal dust collector, referred to as C05, and exhausting to stack S05;
- (k) Shotblasting operation consisting of the following:
  - (1) one (1) pneumatic room blast operation, referred to as process P12a, constructed prior to 1972, with a maximum capacity of 1.376 tons of metal per hour, with emissions controlled by the room blast dust collector, referred to as C09, and exhausting through stack S09;
  - (2) two (2) small shotblast machines, referred to as small castings blasters, constructed prior to 1972, and BCP shot blast, constructed in 1991, referred to as process P12b, with a maximum combined capacity of 13.76 tons of metal per hour, with emissions controlled by the blast operations dust collector, referred to as C03, and exhausting to stack S03;
- (l) cleaning and grinding operations, referred to as process P13, constructed prior to 1972 and modified in 2001, with a maximum capacity of 13.76 tons of metal per hour, consisting of two (2) grinding areas with emissions from one (1) area controlled by a dust collector, referred to as C15, exhausting to stack S15, and emissions from the other area controlled by a dust collector, referred to as C07, exhausting to stack S07;
- (m) mold making operations, referred to as process P16, constructed prior to 1972, using phenolic no-bake and phenolic urethane no-bake binder systems with a maximum capacity of 68.8 tons of sand per hour, with emissions uncontrolled and exhausting inside the building;
- (n) core making operations, referred to as process P17, constructed prior to 1972 and modified in 1985, using phenolic no-bake, furan no-bake, and SO<sub>2</sub> binder systems with a maximum capacity of 68.8 tons of sand per hour, with SO<sub>2</sub> emissions controlled by a packed tower scrubber, referred to as C10, which exhausts to stack S10, and with particulate emissions controlled by the core room dust collector, referred to as C08, exhausting to stack S08;

Note: The SO<sub>2</sub> scrubber is voluntarily installed and operated.



- (o) one (1) pattern repair shop, referred to as process P20, constructed prior to 1972, including woodworking equipment for routine fabrication, maintenance and repair of equipment not related to any commercial production process, with emissions controlled by a dust collector, referred to as C07, and exhausting to stack S07.

### **Unpermitted Emission Units and Pollution Control Equipment**

The source also consists of the following unpermitted facilities/units:

- (a) one (1) scrap and charge handling process, referred to as process P01, constructed prior to 1972, with a maximum capacity of 13.76 tons of metal per hour, with emissions controlled by the melt shop dust collector, referred to as C06 and exhausting to stack S06;
- (b) one (1) natural gas-fired scrap preheater, referred to as emission unit P02, constructed in 1996, with a maximum heat input capacity of 17.8 million Btu per hour, with emissions uncontrolled and exhausting to stack S12;
- (c) one (1) inoculation process, referred to as process P04, constructed prior to 1972, with a maximum capacity of 13.76 tons of metal per hour, consisting of two methods of operation described as follows:
  - (1) Inoculation is periodically done in the furnace before discharge. Emissions are controlled by the melt shop dust collector, referred to as C06, exhausting to stack S06.
  - (2) Inoculation is generally done in molten metal transfer ladles, where emissions are currently uncontrolled and exhaust through Vent 24.

Note: Casting Service will re-direct inoculation emissions exhausting through Vent 24 to the melt shop dust collector, C06, within six (6) months after issuance of the Part 70 permit.
- (d) one (1) magnesium treatment process station using wire injection, referred to as process P05b, constructed in 1994, with a maximum capacity of 13.76 tons of metal per hour, with emissions controlled by dust collector C09, exhausting to stack S09;
- (e) one (1) pouring and casting operation, referred to as process P06, and one (1) castings cooling operation, referred to as process P07, both constructed prior to 1972, with a maximum combined capacity of 13.76 tons of metal per hour and 68.8 tons of sand per hour, with emissions uncontrolled and exhausting inside the building;
- (f) expendable pattern casting, referred to as process P08, constructed in 1978, with a maximum capacity of 68.75 pounds of foam per hour, with emissions uncontrolled and exhausting inside the building;
- (g) casting painting operation, referred to as process P14, utilizing air atomization spray, constructed in 1975, using a maximum of 7.25 pounds of coating per hour and 2.0 pounds of thinner per hour, with a dry filter for overspray control, and emissions exhausting to stack S11;
- (h) core and mold refractory wash coating operation, constructed prior to 1972, referred to as process P18, utilizing dip and flow coating, with emissions exhausting to stack S13;

- (i) pattern and core box release agent coating operation, referred to as process P20a, utilizing air atomization spray, constructed prior to 1972, with emissions exhausting inside the building.

Note: The following emission unit has been removed from service:

- (a) one (1) pellet addition magnesium treatment process, referred to as process P05, constructed prior to 1972, with a maximum capacity of 13.76 tons of metal per hour, with emissions controlled by dust collector C14, exhausting to stack S14.

### Insignificant Activities

The source also consists of the following insignificant activities, as defined in 326 IAC 2-7-1(21):

- (a) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) Btu per hour.
- (b) Propane or liquefied petroleum gas, or butane-fired combustion sources with heat input equal to or less than six million (6,000,000) Btu per hour.
- (c) Equipment powered by internal combustion engines of capacity equal to or less than 500,000 Btu/hour, except where total capacity of equipment operated by one stationary source exceeds 2,000,000 Btu/hour.
- (d) Combustion source flame safety purging on startup.
- (e) A petroleum fuel, other than gasoline, dispensing facility having a storage capacity less than or equal to 10,500 gallons, and dispensing less than or equal to 230,000 gallons per month.
- (f) The following VOC and HAP storage containers:
  - (1) Storage tanks with capacity less than or equal to 1,000 gallons and annual throughput less than 12,000 gallons including:
    - (A) five (5) indoor, aboveground storage tanks, all fixed roof, submerged-filled.
  - (2) Vessels storing lubricating oils, hydraulic oils, machining oils, and machining fluids.
- (g) Refractory storage not requiring air pollution control equipment.
- (h) Machining where an aqueous cutting coolant continuously floods the machining interface.
- (i) Degreasing operations that do not exceed 145 gallons per 12 months, except if subject to 326 IAC 20-6: one (1) Safety Kleen maintenance parts washer with a remote solvent reservoir.
- (j) Cleaners and solvents characterized as follows:
  - (1) Having a vapor pressure equal to or less than 2 kPa; 15 mm Hg; or 0.3 psi measured at 38 degrees C (100°F) or;
  - (2) Having a vapor pressure equal to or less than 0.7 kPa; 5mm Hg; or 0.1 psi measured at 20°C (68°F); the use of which for all cleaners and solvents combined does not exceed 145 gallons per 12 months.
- (k) The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, welding equipment.

- (l) Closed loop heating and cooling systems.
- (m) Infrared cure equipment.
- (n) Any of the following structural steel and bridge fabrication activities:
  - (1) Cutting 200,000 linear feet or less of one inch (10) plate or equivalent.
  - (2) Using 80 tons or less of welding consumables.
- (o) Noncontact cooling tower systems with forced and induced draft cooling tower system not regulated under a NESHAP.
- (p) Replacement or repair of electrostatic precipitators, bags in baghouses and filters in other air filtration equipment.
- (q) Heat exchanger cleaning and repair.
- (r) Paved and unpaved roads and parking lots with public access.
- (s) Underground conveyors.
- (t) Asbestos abatement projects regulated by 326 IAC 14-10.
- (u) Purging of gas lines and vessels that is related to routing maintenance and repair of buildings, structures, or vehicles at the source where air emissions from those activities would not be associated with any production process.
- (v) Blowdown for any of the following: sight glass; boiler; compressors; pumps; and cooling tower.
- (w) On-site fire and emergency response training approved by the department.
- (x) Grinding and machining operations controlled with fabric filters, scrubbers, mist collectors, wet collectors and electrostatic precipitators with a design grain loading of less than or equal to 0.03 grains per actual cubic foot and a gas flow rate less than or equal to 4000 actual cubic feet per minute, including the following: deburring; buffing; polishing; abrasive blasting; pneumatic conveying; and woodworking operations.
- (y) Purge double block and bleed valves.
- (z) Mold release agents using low volatile products (vapor pressure less than or equal to 2 kiloPascals measured at 38 degrees C).
- (aa) A laboratory as defined in 326 IAC 2-7-1(21)(D).
- (bb) Activities with emissions below insignificant thresholds not previously identified:
  - (1) Scrap and charge storage piles with a maximum storage capacity of 13.76 tons of metal per hour, with emissions uncontrolled.

### Existing Approvals

The source has constructed or has been operating under the following previous approvals:

- (a) PC (46) 794, issued on December 19, 1974;
- (b) 46-06-87-0172, issued on April 19, 1984;
- (c) Registration issued on March 22, 1985;
- (d) Registration issued on October 17, 1985;
- (e) Registration issued on June 15, 1988;

- (f) PC (46) 1770, issued on August 7, 1989;
- (g) 46-08-93-0211, issued on February 22, 1990;
- (h) CP 091-1737-00018, issued on December 6, 1990;
- (i) CP 091-2238-00018, issued on January 21, 1994;
- (j) CP 091-10023-00018, issued on December 15, 1998;
- (k) CP 091-10136-00018, issued on April 21, 1999;
- (l) First Significant Source Modification No. 091-10594-00018, issued on July 22, 1999;
- (m) First Administrative Amendment No. 091-11608-00018, issued on December 15, 1999;  
and
- (n) Second Significant Source Modification No. 091-14518-00018, issued on October 25, 2001.

All terms and conditions of previous permits issued pursuant to permitting programs approved into the state implementation plan have been either incorporated as originally stated, revised, or deleted by this permit. All previous registrations and permits are superseded by this permit.

The following terms and conditions from previous approvals have been revised in this Part 70 permit:

- (a) CP 091-10023-00018, issued on December 15, 1998

- (1) Condition No. 11:

PM and PM<sub>10</sub>

- (a) The outlet grain loading of the baghouse shall be less than 0.0235 grains per dry standard cubic foot of outlet air at flow rate of 20,000 actual cubic feet per minute, equivalent to 17,035 dry standard cubic feet per minute at an exhaust temperature of 150 degrees Fahrenheit. This outlet grain loading limit is equivalent to a PM and PM<sub>10</sub> emission rate of less than fifteen (15) tons per year. Therefore, the requirements of 326 IAC 2-2 are not applicable.
    - (b) Any change or modification which may increase potential PM and/or PM<sub>10</sub> emissions after control to twenty-five (25) and/or fifteen (15) tons per year, respectively, from the equipment covered in this permit shall obtain a PSD permit pursuant to 326 IAC 2-2 before such change shall occur.

Reason for change: The outlet grain loading limit for the dust collector (C14) controlling the magnesium wire feeder (now referred to as P05a) to limit PM and PM10 emissions to less than 25 and 15 tons per year, respectively, to render the requirements of 326 IAC 2-2 (PSD) not applicable, will be replaced by PM and PM10 emission limits expressed in pounds per hour in the Part 70 permit.

The following terms and conditions from previous approvals have been determined no longer applicable; therefore, were not incorporated into this Part 70 permit:

- (a) All construction conditions from all previously issued permits.  
Reason not incorporated: All facilities previously permitted have already been constructed; therefore, the construction conditions are no longer necessary as part of the operating permit. Any facilities that were previously permitted but have not yet been constructed would need new pre-construction approval before beginning construction.
- (b) All conditions pursuant to 326 IAC 1-6-2 (Malfunctions).

Reason not incorporated: For Part 70 sources, the emergency provisions of 326 IAC 2-7-16 have replaced the requirements of 326 IAC 1-6-2 (Malfunctions).

- (c) PC (46) 1770, issued August 7, 1989
- (1) Condition number 3: That pursuant to 326 IAC 6-3 (Particulate Matter (PM) Emissions from Process Operations), the allowable PM emissions shall be limited to 5.01 pounds per hour at the limited throughput of 11,800 tons/year.

Reasons not incorporated:

The production limit was originally established in order to render the requirements of PSD not applicable. However, IDEM has determined that the installation of the electric induction furnace F5 in 1990 allowed an increased utilization of the rest of the foundry processes downstream of the furnace. The original construction permit PC (46) 1770, and the permit to modify the throughput restrictions to F5, CP091-2238, did not account for those additional emissions; therefore, the limits in those permits are not sufficient to render PSD not applicable. The source has emitted PM and PM10 at levels in excess of the PSD significance levels and therefore is unable to accept conditions now that would render PSD not applicable. IDEM is now requiring the furnace F5 to comply with the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) for PM and PM10. Also, since furnace F5 exhausts to the same dust collector, identified as C06, as furnaces F1 through F4, the scrap and charge handling operation, and the inoculation operation, emissions from these units are also being reviewed under the requirements of 326 IAC 2-2 (PSD) for PM and PM10. An air quality analysis is included in Appendix C of this document. A BACT analysis for the PM and PM10 emissions from furnaces F1 through F5 is included in Appendix B of this document. This Part 70 permit includes new BACT conditions in Section D.1. Because of the more stringent particulate emission limits for the furnaces pursuant to the BACT requirements under 326 IAC 2-2, the limits pursuant to 326 IAC 6-3-2 are no longer applicable.

- (2) Condition number 4: That lead (Pb) emissions from the 65 ton/day electric induction furnace shall be limited to 0.049 tons per month (0.59 tons per year). Therefore PSD for lead (Pb) does not apply. This condition shall also be maintained by restricting the total metal produced at this electric induction furnace to 983 tons/month (11,800 tons/year) considering that the emission factor for lead (Pb) from such a furnace is established to be 0.1 lb Pb/ton of metal product.

Reason not incorporated: The lead limit was originally established in order to render the requirements of PSD not applicable. However, IDEM has determined that the installation of the electric induction furnace F5 in 1990 allowed an increased utilization of the rest of the foundry processes downstream of the furnace. The original construction permit PC (46) 1770, and the permit to modify the throughput restrictions to F5, CP091-2238, did not account for those additional emissions; therefore, the limits in those permits are not sufficient to render PSD not applicable. The source has emitted PM and PM10 at levels in excess of the PSD significance levels and therefore is unable to accept conditions now that would render PSD not applicable. IDEM is now requiring the furnace F5 to comply with the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) for PM and PM10. Also, since furnace F5 exhausts to the same dust collector, identified as C06, as furnaces F1 through F4, the scrap and charge handling operation, and the inoculation operation, emissions from these units are also being reviewed under the requirements of 326 IAC 2-2 (PSD) for PM and PM10. An air quality analysis is included in Appendix C of this document. A BACT analysis for the PM and PM10 emissions from furnaces F1 through F5 is included in Appendix B of this document. Based on the calculations on page 23 of 26 in Appendix A, the emissions increase of lead is below the PSD significant modification threshold level of 0.6 ton per year, therefore, these emissions were not included in the PSD BACT analysis. However, limits have been included in the Part 70 permit to keep the increase in lead emissions from the modification at less than 0.6 tons per year so that the requirements of 326 IAC 2-2 are not applicable for lead.

(d) CP091-1737, issued on December 6, 1990

- (1) Condition number 6: That pursuant to 326 IAC 6-3-2 (Particulate Matter (PM) Limitations for Process Operations), PM emissions from sand handling, reclamation, and shakeout shall be limited to 44.6 pounds per hour.

Reason not incorporated: Rule 326 IAC 6-3-2 (Process Operations) established a separate limit for each individual process. The high bay sand handling system, the high bay shakeout system, and the thermal sand reclamation system are three separate and distinct processes. The Part 70 permit includes three separate PM limits for each of these three separate processes.

- (2) Condition number 8: That the maximum sand processed shall be limited to 50 tons per hour and the maximum metal processed shall be limited to 11.7 tons per hour.

Reason not incorporated: In order to allow the source more operational flexibility, these hourly limits have been replaced with annual throughput limits.

- (3) Condition number 9: That the previously existing 40 ton per hour sand handling equipment shall be removed and operation practices shall be discontinued. Also, that the newly constructed 50 ton per hour high bay sand handling operation and emission control equipment shall be operated to achieve net emission reductions as set forth in the technical support document addendum to this permit. This condition substantiates the "net out" for PSD applicability purposes. Therefore, pursuant to 326 IAC 2-2 and 40 CFR 52.21, the PSD requirements do not apply.

Reason not incorporated: The previously existing 40 ton per hour sand handling equipment has been removed from the plant site; therefore it is not necessary to have this condition remain in the Part 70 permit. The Part 70 permit will specify all conditions necessary to limit emissions below PSD levels; therefore it is not necessary to reference the technical support document addendum associated with a previously issued permit.

(e) CP 091-2238, issued on January 21, 1994

- (1) Condition number 5: That the particulate matter (PM) emissions from each 65 ton/day electric induction (F1 and F5) furnace shall be limited to 2.98 lb/hr (9.7 ton/yr) at the limited throughput from each furnace of 3.3 tons/hr (21,450 tons/yr for 6,500 hr/yr of operation). This condition will also satisfy 326 IAC 6-3 (Process Operations).
- (2) Condition number 6: That the lead emissions from each 65 ton/day EIF (F1 and F5) shall be limited to 0.031 lb/hr (0.1 tons/yr). This condition shall be maintained by limiting the metal throughput at each furnace at rated capacity of 3.3 tons/hr (21,450 tons/yr for 6,500 hours/yr of operation).
- (3) Condition number 7: That the maximum sand processed shall be limited to 5 tons of sand per ton of metal charged and the maximum metal processed shall be limited to 3.3 tons per hour per furnace (21,450 tons/yr for 6,500 hrs/yr of operation) to avoid exceeding the PSD significant levels. This condition will also satisfy 326 IAC 6-3 (Process Operations).
- (4) Condition number 8: That prior to the start-up of the new 65 ton (F1) electric induction furnace (EIF), the old existing 25 ton EIF shall be permanently discontinued from service. Also, operation condition No. 9 from construction permit CP-091-1937, issued on December 6, 1990, requiring the shutdown of the old sand handling system shall remain in effect. This shutdown condition and conditions 5, 6, and 7 of this permit shall make the PSD rules not applicable.

Reason not incorporated: IDEM has determined that the installation of the electric induction furnace F5 in 1990 allowed an increased utilization of the rest of the foundry processes downstream of the furnace. The original construction permit PC (46) 1770, and the permit to modify the throughput restrictions to F5, CP091-2238, did not account for those additional emissions; therefore, the limits in those permits are not sufficient to render PSD not applicable. The source has emitted PM and PM10 at levels in excess of the PSD significance levels and therefore is unable to accept conditions now that would render PSD not applicable. IDEM is now requiring the furnace F5 to comply with the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) for PM and PM10. Also, since furnace F5 exhausts to the same dust collector, identified as C06, as furnaces F1 through F4, the scrap and charge handling operation, and the inoculation operation, emissions from these units are also being reviewed under the requirements of 326 IAC 2-2 (PSD) for PM and PM10. An air quality analysis is included in Appendix C of this document. A BACT analysis for the PM and PM10 emissions from furnaces F1 through F5 is included in Appendix B of this document. This Part 70 permit includes new BACT conditions in Section D.1 for particulate emissions. Based on the calculations on page 23 of 26 in Appendix A, the emissions increase of lead is below the PSD significant modification threshold level of 0.6 ton per year, therefore, these emissions were not included in the PSD BACT analysis. However, limits have been included in the Part 70 permit to keep the increase in lead emissions from the modification at less than 0.6 tons per year so that the requirements of 326 IAC 2-2 are not applicable for lead.

- (5) Condition number 10: That the seven baghouses on the thermo scrubber, mechanical sand scrubber, shakeout, center bay shakeout, shotblasting, room blast and sand storage/core sand mixers shall be operated at all time when the sand handling processes are in operation. Particulate matter emissions will be considered in compliance provided that: a) visible emissions are less than 10% opacity and b) test comply with conditions 5 and 6.

Reason not incorporated: The dust collectors will still be required to be in operation at all times when the associated processes are in operation. The 10% opacity limit will no longer apply. PM and PM10 emission limits will be established. Compliance with an opacity limit does not assure compliance with a particulate matter emission limit.

#### Enforcement Issue

- (a) IDEM is aware that equipment has been constructed and operated prior to receipt of the proper permit. The subject equipment is listed in this Technical Support Document under the condition entitled *Unpermitted Emission Units and Pollution Control Equipment*.
- (b) IDEM is reviewing this matter and will take appropriate action. This proposed permit is intended to satisfy the requirements of the construction permit rules.
- (c) The source has the following enforcement actions pending:
- (1) The source has constructed and operated some dip tanks without the proper construction and operating permits. These dip tanks used coatings which violated the VOC limits in 326 IAC 8-2-9 (Miscellaneous Metal Coating Operations). These dip tanks have been removed from service.
- (d) IDEM is aware that particulate emissions from the inoculation operation, which is only partially controlled, exceed the allowable particulate emission rate pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes) of 23.75 pounds per hour. Casting Service will vent the uncontrolled emissions from the inoculation operation, which currently exhaust to Vent 24, to the melt shop dust collector C06 within six (6) months of issuance of the Part 70 permit.

IDEM is reviewing this matter and will take appropriate action.

## Recommendation

The staff recommends to the Commissioner that the Part 70 permit be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An administratively complete Part 70 permit application for the purposes of this review was received on June 17, 1996. Additional information was received on August 4, 1998, May 9, 2003, and March 24, 2004.

A notice of completeness letter was mailed to the source on May 22, 1998.

## Emission Calculations

See Appendix A of this document for detailed emissions calculations (27 pages).

## Potential to Emit of the Source

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U.S. EPA, the department, or the appropriate local air pollution control agency."

Pollutant	Potential to Emit (tons/yr)
PM	Greater than 250
PM-10	Greater than 250
SO <sub>2</sub>	Less than 100
VOC	Greater than 250
CO	Less than 100
NO <sub>x</sub>	Less than 100

HAPs	Potential to Emit (tons/yr)
Lead	Less than 10
Manganese	Less than 10
Hexane	Less than 10
Acetaldehyde	Less than 10
Benzene	Less than 10
Ethylbenzene	Less than 10
Formaldehyde	Less than 10
Xylene	Less than 10
Styrene	Less than 10
Toluene	Less than 10
MEK	Less than 10
MIBK	Greater than 10
Tetrachloro-ethylene	Greater than 10
Naphthalene	Less than 10
Cumene	Less than 10
Total HAPs	Greater than 25



- (a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of PM-10 and VOC are equal to or greater than 100 tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-7.
- (b) The potential to emit (as defined in 326 IAC 2-7-1(29)) of any single HAP is equal to or greater than ten (10) tons per year and the potential to emit (as defined in 326 IAC 2-7-1(29)) of a combination of HAPs is equal to or greater than twenty-five (25) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-7. Therefore, the source is subject to the provisions of 326 IAC 2-7.
- (c) Fugitive Emissions  
Since this type of operation is one of the twenty-eight (28) listed source categories under 326 IAC 2-2, the fugitive emissions are counted toward determination of PSD and Emission Offset applicability.

The table below summarizes the potential to emit after issuance of the Part 70 permit, reflecting all federally enforceable limits, of the emission units. Any control equipment is considered enforceable only after issuance of the original Part 70 operating Permit and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

Process/emission unit	Potential to Emit (tons/year)							
	PM	PM-10	SO <sub>2</sub>	VOC	CO	NO <sub>x</sub>	Single HAPs	Total HAPs
Scrap and charge handling (P01)	0.99	0.59	0.00	0.00	0.00	0.00	0.02	0.04
Scrap and charge storage piles	0.14	0.06	0.00	0.00	0.00	0.00	0.00	0.00
Scrap Preheater (P02)	0.15	0.59	0.05	0.43	6.55	7.80	0.14	0.15
Electric induction furnaces F1 – F5	1.48	1.41	0.00	0.00	0.00	0.00	0.09	0.15
Inoculation (P04)	6.57	6.57	0.00	0.15	0.00	0.00	0.00	0.00
Magnesium wire treatment (P05a and P05b)	2.46	2.46	0.00	0.00	0.00	0.00	0.00	0.00
Pouring and casting (P06) and castings cooling (P07)	126.00	61.80	0.60	4.20	0.00	0.30	1.89	7.64
Expendable Pattern Casting (P08)	0.00	0.00	0.00	11.86	0.00	0.00	2.43	5.82
High bay and Center bay shakeout (P09a and P09b)	4.28	3.00	0.00	27.00	0.00	0.00	0.06	0.16
Sand handling/mechanical reclamation (P10)	13.41	2.01	0.00	0.00	0.00	0.00	0.00	0.00
Sand handling/thermal sand reclamation & calcining unit (P11) <sup>(1)</sup>	2.87	0.62	0.02	4.63	2.21	2.63	0.05	0.05
Shot blasting (small castings blasters and BCP blast) (P12b)	5.72	0.57	0.00	0.00	0.00	0.00	0.09	0.22
Pneumatic room blast (P12a)	0.76	0.08	0.00	0.00	0.00	0.00	0.01	0.03

Process/emission unit	PM	PM-10	SO <sub>2</sub>	VOC	CO	NO <sub>x</sub>	Single HAPs	Total HAPs
Cleaning / grinding (P13)	0.26	0.31	0.00	0.00	0.00	0.00	Negl.	Negl.
Casting Painting (P14)	0.14	0.14	0.00	26.69	0.00	0.00	8.76	16.38
Core Sand Handling	5.64	0.85	0.00	0.00	0.00	0.00	0.00	0.00
Mold and Core making (P16 and P17)	0.00	0.00	0.78	83.05	0.00	0.00	10.50	11.02
Core and Mold Coating (P18)	0.00	0.00	0.00	99.03	0.00	0.00	0.00	0.00
Pattern and Core Box Coating (P20a)	0.00	0.00	0.00	43.25	0.00	0.00	42.82	42.82
Other Natural Gas Usage	0.48	1.93	0.15	1.40	21.33	25.39	0.46	0.48
Total PTE	171.35	82.99	1.60	301.69	30.09	36.12	42.82	84.96

All emission are based on emissions after control where federally enforceable after permit issuance and at throughput limits to comply with 326 IAC 2-2 (PSD).

(1) Emissions from thermal sand reclamation include emissions from natural gas combustion in the calcining unit.

### Actual Emissions

The following table shows the actual emissions from the source. This information reflects the 2001 OAQ emission data.

Pollutant	Actual Emissions (tons/year)
PM	Not reported
PM-10	39.27
SO <sub>2</sub>	16.12
VOC	54.03
CO	1.14
NO <sub>x</sub>	4.84
HAP (specify)	Not reported

### County Attainment Status

The source is located in LaPorte County.

Pollutant	Status
PM-10	Attainment
SO <sub>2</sub>	Maintenance
NO <sub>2</sub>	Attainment
1-hour Ozone	Attainment
8-hour Ozone	Nonattainment
CO	Attainment
Lead	Attainment

- (a) Volatile organic compounds (VOC) and Nitrogen Oxides (NOx) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NOx emissions are considered when evaluating the rule applicability relating to the ozone standards. LaPorte County has been designated as nonattainment for the 8-hour ozone standard. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for nonattainment new source review.
- (b) LaPorte County has been classified as attainment or unclassifiable in Indiana for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability for the source section.
- (c) Fugitive Emissions  
Since this type of operation is one of the twenty-eight (28) listed source categories under 326 IAC 2-2, the fugitive emissions are counted toward determination of PSD and Emission Offset applicability.

#### **Part 70 Permit Conditions**

This source is subject to the requirements of 326 IAC 2-7, pursuant to which the source has to meet the following:

- (a) Emission limitations and standards, including those operational requirements and limitations that assure compliance with all applicable requirements at the time of issuance of Part 70 permits.
- (b) Monitoring and related record keeping requirements which assume that all reasonable information is provided to evaluate continuous compliance with the applicable requirements.

#### **Federal Rule Applicability**

- (a) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this source.
- (b) The parts washer is not subject to the requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs), 40 CFR 63, Subpart T, because the solvent used does not contain any of the following halogenated solvents in concentrations greater than five percent by weight: methylene chloride, 1,1,1-trichloroethane, trichloroethylene, perchloroethylene, carbon tetrachloride, or chloroform.
- (c) On April 22, 2004, U.S. EPA promulgated a NESHAP for iron and steel foundries. The NESHAP, 40 CFR 63.7680 - 63.7762, Subpart EEEEE, applies to each new or existing iron and steel foundry that is a major source of HAPs. A major source of HAPs is a source that emits or has the potential to emit any single HAP at a rate of 10 tons or more per year or any combination of HAPs at a rate of 25 tons or more per year. The affected source covered by this rule is each new or existing iron and steel foundry and the rule covers emissions from metal melting furnaces, scrap preheaters, pouring areas, pouring stations, automated conveyor and pallet cooling lines, automated shakeout lines, and mold and core making lines. This rule also covers fugitive emissions from foundry operations. Therefore, since this iron foundry is a major source of HAPs and was constructed prior to December 23, 2002, it is an existing affected source and is subject to this rule.

Pursuant to this rule, the Permittee must comply with 40 CFR 63, Subpart EEEEE on and after April 23, 2007, or accept and meet an enforceable HAP emissions limit below the major source threshold prior to April 23, 2007.

The following emissions units comprise the existing affected source that is subject to 40 CFR 63, Subpart EEEEE:

- (1) Five (5) electric induction furnaces, referred to as F1 through F5;
- (2) One (1) natural gas-fired scrap preheater, referred to as P02; and
- (3) Fugitive emissions from foundry operations.

The requirements of this rule were not included for the pouring and casting operation, referred to as process P06, because the pouring operation at this source meets the definition of a pouring area and does not meet the definition of a pouring station pursuant to 40 CFR 63.7765. For existing foundries, this rule does not have any applicable emission limits for pouring areas.

The castings cooling operation, referred to as process P07, and the high bay and center bay shakeout systems, referred to as processes P09a and P09b, are not subject to this rule because this is an existing foundry and there are no standards applicable for these operations at existing foundries.

The core and mold making operations at this source do not use triethylamine (TEA) and are not furan warm box core and mold making operations, therefore, they are not subject to this rule.

The definitions of 40 CFR 63, Subpart EEEEE at 40 CFR 63.7765 are applicable to the affected source.

Pursuant to 40 CFR 63.7700(a) and 40 CFR 63.7683(b), the Permittee shall comply with the certification requirements in 40 CFR 63.7700(b) or prepare and implement a plan for the selection and inspection of scrap according to the requirements in 40 CFR 63.7700(c) no later than April 22, 2005.

Pursuant to 40 CFR 63.7750, the Permittee shall submit all of the notifications required by 40 CFR 63.6(h)(4) and (5), 63.7(b) and (c); 63.8(e); 63.8(f)(4) and (6); 63.9(b) through (h) that apply to the affected source and chosen compliance method by the specified dates. These notifications include, but are not limited to, the following:

- (1) An Initial Notification containing the information specified in 40 CFR 63.9(b)(2) no later than August 20, 2004.
- (2) A Notification of Compliance Status containing the information required by 40 CFR 63.9(h) in accordance with 40 CFR 63.7750(e). The Notification of Compliance Status must be submitted:
  - (A) Before the close of business on the 30th calendar day following completion of the initial compliance demonstration for each initial compliance demonstration that does not include a performance test; and
  - (B) Before the close of business on the 60th calendar day following the completion of the performance test according to the requirement specified in 40 CFR 63.10(d)(2) for each initial compliance demonstration that does include a performance test.
- (3) If required to conduct a performance test, a notification of intent to conduct a performance test at least 60 calendar days before the performance test is scheduled to begin as required by 40 CFR 63.7(b)(1) and 40 CFR 63.7750(d).
- (4) If required to use a continuous monitoring system (CMS), notifications, if required, as specified in 40 CFR 63.9(g), by the date of submission of the notification of intent to conduct a performance test.

- (5) If required to conduct opacity or visible emissions observations, the anticipated date for conducting the opacity or visible emission observations specified in 40 CFR 63.6(h)(5) in accordance with the appropriate schedule specified in 40 CFR 63.9(f) as required by 40 CFR 63.7750(a).

The Permittee shall submit an application for a significant permit modification to IDEM, OAQ to include information regarding which compliance option or options will be chosen in the Part 70 permit.

- (1) The significant permit modification application shall be consistent with 326 IAC 2-7-12, including information sufficient for IDEM, OAQ to incorporate into the Part 70 permit the applicable requirements of 40 CFR 63, Subpart EEEEE, a description of the affected source and activities subject to the standard, and a description of how the Permittee will meet the applicable requirements of the standard.
- (2) The significant permit modification application shall be submitted no later than nine months prior to April 23, 2007.
- (d) The casting painting operation (P14) at this source is subject to the NESHAP, 40 CFR 63.3880 - 63.3981, Subpart MMMM, Surface Coating of Miscellaneous Metal Parts and Products, because it is an existing affected source, as defined in 40 CFR 63.3882, that uses 946 liters (250 gallons (gal)) per year, or more, of coatings that contain hazardous air pollutants (HAP) in the surface coating of miscellaneous metal parts and products that is located at a major source of emissions of HAP.

Pursuant to 40 CFR 63.3883(b), the Permittee must comply with the requirements of this rule on and after January 2, 2007.

The affected source is the collection of all of the items listed in 40 CFR 63.3882, paragraphs (b)(1) through (4) that are used for surface coating of miscellaneous metal parts and products within each subcategory as defined in 40 CFR 63.3881(a), paragraphs (2) through (6).

- (1) All coating operations as defined in 40 CFR 63.3981;
- (2) All storage containers and mixing vessels in which coatings, thinners and/or other additives, and cleaning materials are stored or mixed;
- (3) All manual and automated equipment and containers used for conveying coatings, thinners and/or other additives, and cleaning materials; and
- (4) All storage containers and all manual and automated equipment and containers used for conveying waste materials generated by a coating operation.

Terminology used in this section is defined in the CAA, in 40 CFR Part 63, Section 63.2, and in 40 CFR 63.3980, and are applicable to the affected source.

The Permittee must submit the applicable notifications in 40 CFR Part 63, Sections 63.7(b) and (c), 63.8(f)(4), and 63.9(b) through (e) and (h) by the dates specified in those sections, except as provided in 40 CFR 63.3910, paragraphs (b) and (c).

For an existing affected source, the Permittee must submit the initial notification no later than January 2, 2005.

The Permittee must submit the notification of compliance status required by 40 CFR 63.9(h) no later than 30 calendar days following the end of the initial compliance period described in 40 CFR Part 63, Sections 63.3940, 63.3950, or 63.3960 that applies to the affected source. The notification of compliance status must contain the information specified in 40 CFR 63.3910(c), paragraphs (1) through (11) and any additional information specified in 40 CFR 63.9(h).

The Permittee shall submit an application for a significant permit modification to IDEM, OAQ to include information regarding which compliance option or options will be chosen in the Part 70 permit.

The significant permit modification application shall be consistent with 326 IAC 2-7-12, including information sufficient for IDEM, OAQ to incorporate into the Part 70 permit the applicable requirements of 40 CFR 63, Subpart Mmmm, a description of the affected source and activities subject to the standard, and a description of how the Permittee will meet the applicable requirements of the standard.

The significant permit modification application shall be submitted no later than April 2, 2006.

- (e) The Permittee submitted a Part 1 MACT Application indicating that the source may be subject to the requirements of Section 112(j) of the Clean Air Act on May 15, 2002. The requirements of Section 112(j) of the Clean Air Act (40 CFR Part 63.50 through 63.56) are no longer applicable because the EPA finalized rules on February 26, 2004 for the remaining source categories that Casting Service indicated might be applicable in their Part 1 MACT Application. Pursuant to 40 CFR 63.50(c), since final standards have been promulgated for Casting Service's source categories, the source categories are no longer affected by Section 112(j) Maximum Achievable Control Technology (MACT) Hammer. IDEM has evaluated the final standards to determine if the final standards are applicable and has explained the determination if the standards are applicable within this technical support document (See discussion of applicability of 40 CFR Part 63, Subpart EEEEE, and 40 CFR 63, Subpart Mmmm, above).

#### **40 CFR 64 Compliance Assurance Monitoring**

- (a) This Part 70 permit does involve a pollutant-specific emissions unit as defined in 40 CFR 64.1:
  - (1) with the potential to emit before controls equal to or greater than the major source threshold for PM-10;
  - (2) that is subject to an emission limitation or standard for PM-10; and
  - (3) uses a control device as defined in 40 CFR 64.1 to comply with that emission limitation or standard.

Therefore, the requirements of 40 CFR Part 64, Compliance Assurance Monitoring, are applicable to this source.

- (b) The pollutant-specific emission units are not "large units" as described in 40 CFR 64.5. Therefore, the owner or operator shall submit a CAM plan pursuant to 40 CFR 64 as part of the Part 70 renewal application.

#### **State Rule Applicability - Entire Source**

##### **326 IAC 1-6-3 (Preventive Maintenance Plan)**

The source has submitted a Preventive Maintenance Plan (PMP) on June 17, 1996.

326 IAC 2-2 (Prevention of Significant Deterioration (PSD))

This existing source is a major stationary source because it is one of the 28 listed source categories and at least one attainment regulated pollutant is emitted at a rate of 100 tons per year. IDEM has determined that the installation of the electric induction furnace F5 in 1990 allowed an increased utilization of the rest of the foundry processes downstream of the furnace. The original construction permit PC (46) 1770, issued August 7, 1989, and the permit to modify the throughput restrictions to F5, CP091-2238-00018, issued on January 21, 1994, did not account for those additional emissions; therefore, the limits in those permits are not sufficient to render PSD not applicable. The source has emitted PM and PM10 at levels in excess of the PSD significance levels and therefore is unable to accept conditions now that would render PSD not applicable. IDEM is now requiring the furnace F5 to comply with the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) for PM and PM10. Also, since furnace F5 exhausts to the same dust collector, identified as C06, as furnaces F1 through F4, the scrap and charge handling operation, and the inoculation operation, emissions from these units are also being reviewed under the requirements of 326 IAC 2-2 (PSD) for PM and PM10. An air quality analysis is included in Appendix C of this document. A BACT analysis for the PM and PM10 emissions from furnaces F1 through F5 is included in Appendix B of this document. Since the only pollutants from the electric induction furnaces that had a significant emissions increase as a result of this modification were PM and PM10, this Part 70 permit includes new BACT conditions in Section D.1 for PM and PM10 emissions from the electric induction furnaces. The modification also resulted in a significant emissions increase of VOC emissions; however, since the electric induction furnace does not emit VOC, a BACT analysis was not done for VOC emissions.

The following limits shall also apply pursuant to 326 IAC 2-2 so that the results of the air dispersion modeling analysis do not exceed any of the National Ambient Air Quality Standards (NAAQS) or PSD Increment values.

- (a) The throughput of metal to the pouring and casting operation, and the casting cooling operation shall not exceed 60,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (b) Total PM emissions from the pouring and casting operation and the casting cooling operation shall not exceed 4.2 pounds per ton of metal throughput;
- (c) Total PM10 emissions from the pouring and casting operation and the casting cooling operation shall not exceed 2.06 pounds per ton of metal throughput;
- (d) The combined throughput of metal to the magnesium wire treatment process, P05a and P05b, and the pneumatic room blast operations, P12a, shall not exceed 54,500 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (e) Total PM emissions from dust collectors C09 and C14 controlling the magnesium wire treatment processes, identified as P05a and P05b, and the pneumatic room blast operations, identified as P12a, shall not exceed 0.117 pound per ton of combined metal throughput;
- (f) Total PM10 emissions from dust collectors C09 and C14 controlling the magnesium wire treatment processes, identified as P05a and P05b, and the pneumatic room blast operations, identified as P12a, shall not exceed 0.093 pound per ton of combined metal throughput;
- (g) The combined throughput of metal to the high and center bay shakeout operations, P09a and P09b, shall not exceed 45,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;

- (h) Total PM emissions from dust collectors C01 and C02 controlling the high and center bay shakeout operations, identified as P09a and P09b, shall not exceed 0.19 pound per ton of combined metal throughput;
- (i) Total PM10 emissions from dust collectors C01 and C02 controlling the high and center bay shakeout operations, identified as P09a and P09b, shall not exceed 0.133 pound per ton of combined metal throughput;
- (j) The throughput of metal to the small castings blasters and BCP shot blast, P12b, shall not exceed 45,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (k) Total PM emissions from dust collector C03 controlling the small casting blasters and BCP shot blast, shall not exceed 0.25 pound per ton of metal throughput;
- (l) Total PM10 emissions from dust collector C03 controlling the small casting blasters and BCP shot blast, shall not exceed 0.025 pound per ton of metal throughput;
- (m) The combined throughput of metal to the cleaning and grinding operation, P13, shall not exceed 45,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (n) Total PM emissions from dust collectors C07 and C15 controlling the cleaning and grinding operation, shall not exceed 0.012 pound per ton of combined metal throughput;
- (o) Total PM10 emissions from dust collectors C07 and C15 controlling the cleaning and grinding operation, shall not exceed 0.013 pound per ton of combined metal throughput;
- (p) The total throughput of sand to the mechanical reclamation system, P10, shall not exceed 250,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (q) Total PM emissions from dust collector C04 controlling the mechanical reclamation system, shall not exceed 0.107 pound per ton of sand throughput;
- (r) Total PM10 emissions from dust collector C04 controlling the mechanical reclamation system, shall not exceed 0.016 pound per ton of sand throughput;
- (s) The total throughput of sand to the thermal sand reclamation system, P11, shall not exceed 52,560 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (t) Total PM emissions from dust collector C05 controlling the thermal sand reclamation system shall not exceed 0.107 pound per ton of sand throughput;
- (u) Total PM10 emissions from dust collector C05 controlling the thermal sand reclamation system shall not exceed 0.016 pound per ton of sand throughput;
- (v) The throughput of sand to the core making operations, P17, shall not exceed 70,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (w) Total PM emissions from dust collector C08 controlling the core making operations shall not exceed 0.16 pound per ton of sand throughput;
- (x) Total PM10 emissions from dust collector C08 controlling the core making operations shall not exceed 0.024 pound per ton of sand throughput.



- (y) The Permittee shall increase the heights of stacks S04 and S05 from the existing stack height of 40 feet above ground to 50 feet above ground, within one (1) year after issuance of the Part 70 permit.

The above limits yield the following equivalent pound per hour PM and PM10 emission limits:

- (a) Total PM and PM10 emissions from the five (5) electric induction furnaces, the scrap and charge handling operation, and the inoculation operation shall not exceed 2.06 and 1.96 pounds per hour, respectively;
- (b) Total PM and PM10 emissions from the pouring and casting operation and castings cooling operation shall not exceed 28.77 and 14.11 pounds per hour, respectively;
- (c) Total PM and PM10 emissions from the magnesium wire treatment processes and the pneumatic room blast operations shall not exceed 0.73 and 0.58 pound per hour, respectively;
- (d) Total PM and PM10 emissions from the high and center bay shakeout operations shall not exceed 0.98 and 0.68 pound per hour, respectively;
- (e) Total PM and PM10 emissions from the small castings blasters and BCP shot blast shall not exceed 1.31 and 0.13 pounds per hour, respectively;
- (f) Total PM and PM10 emissions from the cleaning and grinding operation shall not exceed 0.06 and 0.07 pound per hour, respectively;
- (g) Total PM and PM10 emissions from the mechanical reclamation system shall not exceed 3.06 and 0.46 pounds per hour, respectively;
- (h) Total PM and PM10 emissions from the thermal sand reclamation system shall not exceed 0.64 and 0.097 pounds per hour, respectively; and
- (i) Total PM and PM10 emissions from the core sand handling shall not exceed 1.29 and 0.19 pounds per hour, respectively.

The following limit will ensure that the increase in lead emissions from the modification in 1990 does not exceed the PSD significant modification threshold of 0.6 ton per year so that the requirements of 326 IAC 2-2 do not apply:

- (a) The throughput of metal to the electric induction furnaces shall not exceed 60,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (b) Total lead emissions from the five (5) electric induction furnaces shall not exceed 0.022 pound per ton of metal throughput.

The following limits will ensure that the source-wide future potential VOC emissions minus past actual VOC emissions for the modification in 1990 do not exceed 100 tons per year, so that an air quality analysis for VOC will not be required:

- (a) The usage of VOC in the pattern and core box release agent coating operation (P20a) shall not exceed 86,500 pounds per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (b) The throughput of foam in the expendable pattern casting operation (P08) shall not exceed 200,000 pounds per twelve (12) consecutive month period, with compliance determined at the end of each month;

- (c) Emissions of VOC from the expendable pattern casting operation (P08) shall not exceed 0.1186 pound of VOC per pound of foam throughput.

The center bay shakeout operation was reconstructed as a new emission unit in 1990. To determine the applicability of 326 IAC 2-2 (PSD) to this emission unit, it must be determined if the installation of the center bay shakeout operation in 1990 was a separate project from the installation of the electric induction furnace F5 in 1990. Based on information submitted to the OAQ by Casting Service, it has been determined that the installation of the center bay shakeout operation in 1990 was a separate project unrelated to the installation of furnace F5.

The center bay shakeout operation was reconstructed as a result of a citation they received from the Indiana Occupational Safety and Health Administration (IOSHA) for allegedly exposing their workers to silica dust that was generated by the center bay shakeout process. In order to reduce the silica dust levels, Casting Service proposed to IOSHA to modify the center bay shakeout by installing new equipment and adding a dust collection system. The center bay shakeout was not modified to accommodate any increase in throughput and was not associated with the throughput increase that accompanied the furnace F5 project. Also, based on Casting Service's 1989 capital plan, the financial approval for these projects was separate further indicating they were separate projects. Therefore, the applicability of 326 IAC 2-2 (PSD) to the center bay shakeout operation will be considered separately from furnace F5.

The source has accepted the following limits on the center bay shakeout operation in order to limit PM and PM10 emissions to less than 25 and 15 tons per year, respectively, so that the requirements of 326 IAC 2-2 (PSD) are not applicable:

- (a) Total PM emissions from dust collector C02, controlling the center bay shakeout operation (P09b) shall not exceed 5.68 pounds per hour;
- (b) Total PM10 emissions from dust collector C02, controlling emissions from the center bay shakeout operation (P09b) shall not exceed 3.4 pounds per hour;

VOC emissions from the center bay shakeout operation, installed in 1990, are being limited to less than 25 tons per year to render the requirements of 326 IAC 8-1-6 (New Facilities, General Reduction Requirements) not applicable as follows:

- (a) VOC emissions from the center bay (P09b) shakeout operation shall not exceed 1.2 pounds of VOC per ton of metal throughput;
- (b) The throughput of metal to the center bay (P09b) shakeout operation shall not exceed 41,500 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

These limits will also render the requirements of 326 IAC 2-2 (PSD) not applicable for the center bay shakeout operation.

VOC emissions from the high bay shakeout operation, installed in 1991, are also being limited to less than 25 tons per year to render the requirements of 326 IAC 8-1-6 (New Facilities, General Reduction Requirements) not applicable as follows:

- (c) VOC emissions from the high bay (P09a) shakeout operation shall not exceed 1.2 pounds of VOC per ton of metal throughput;
- (d) The throughput of metal to the high bay (P09a) shakeout operation shall not exceed 41,500 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

These limits will also render the requirements of 326 IAC 2-2 (PSD) not applicable for the high bay shakeout operation.

When the high bay shakeout operation (P09a), the mechanical sand reclamation operation (P10), the thermal sand reclamation operation (P11), and the BCP shot blast (P12b) were installed in 1991, previously existing sand handling equipment was removed creating emission reductions. Therefore, the following limits shall limit PM and PM10 emissions from these emission units so that the net emissions increase of PM and PM10 from this replacement are less than the PSD significant thresholds.

- (a) Total PM emissions from dust collector C01, controlling the high bay shakeout operation shall not exceed 49.37 pounds per hour;
- (b) Total PM10 emissions from the dust collector C01, controlling the high bay shakeout operation shall not exceed 49.37 pounds per hour;
- (c) Total PM emissions from the dust collector C04, controlling the mechanical sand reclamation operation shall not exceed 47.6 pounds per hour;
- (d) Total PM10 emissions from the dust collector C04, controlling the mechanical sand reclamation operation shall not exceed 47.6 pounds per hour;
- (e) Total PM emissions from the dust collector C05, controlling the thermal sand reclamation operation shall not exceed 13.62 pounds per hour;
- (f) Total PM10 emissions from the dust collector C05, controlling the thermal sand reclamation operation shall not exceed 13.62 pounds per hour;
- (g) Total PM emissions from the dust collector C03, controlling the BCP shot blast shall not exceed 23.75 pounds per hour;
- (h) Total PM10 emissions from the dust collector C03, controlling the BCP shot blast shall not exceed 23.75 pounds per hour.

The following limits will ensure that PM and PM10 emissions from the following units are less than 25 and 15 tons per year, respectively, so that the requirements of 326 IAC 2-2 (PSD) do not apply:

- (a) Total PM emissions from dust collector C09, controlling emissions from the magnesium treatment process station using wire injection (P05b), installed in 1994, shall not exceed 5.68 pounds per hour;
- (b) Total PM10 emissions from dust collector C09, controlling emissions from the magnesium treatment process station using wire injection (P05b), installed in 1994, shall not exceed 3.4 pounds per hour;
- (c) Total PM emissions from dust collector C14, controlling emissions from the magnesium treatment process station using wire injection (P05a), installed in 1998, shall not exceed 5.68 pounds per hour;
- (d) Total PM10 emissions from dust collector C14, controlling emissions from the magnesium treatment process station using wire injection (P05a), installed in 1998, shall not exceed 3.4 pounds per hour.
- (e) Pursuant to CP 091-10136-00018, issued on April 21, 1999, and CP 091-10594-00018, issued on July 22, 1999, total PM emissions from dust collector C04, controlling the mechanical sand reclamation operation (P10), modified in 1999, shall not exceed 5.48 pounds per hour average over three (3) hours.

- (f) Pursuant to CP 091-10136-00018, issued on April 21, 1999, and CP 091-10594-00018, issued on July 22, 1999, total PM10 emissions from dust collector C04, controlling the mechanical sand reclamation operation (P10), modified in 1999, shall not exceed 3.40 pounds per hour average over three (3) hours.

Note since these limits for dust collector C04 are more stringent than the PM and PM10 emission limits established above for dust collector C04 to render 326 IAC 2-2 (PSD) not applicable for the units installed in 1991, these limits will also ensure that the requirements of 326 IAC 2-2 (PSD) do not apply for the units installed in 1991.

- (g) Pursuant to Significant Source Modification No. 091-14518-00018, issued on October 25, 2001, total PM emissions from dust collector C15, controlling one area of the cleaning and grinding operations (P13), modified in 2001, shall not exceed 5.7 pounds per hour, averaged over three (3) hours.
- (h) Pursuant to Significant Source Modification No. 091-14518-00018, issued on October 25, 2001, total PM10 emissions from dust collector C15, controlling one area of the cleaning and grinding operations (P13), modified in 2001, shall not exceed 3.42 pounds per hour, averaged over three (3) hours.

#### 326 IAC 2-6 (Emission Reporting)

Since this source is required to have an operating permit under 326 IAC 2-7, Part 70 Permit Program, this source is subject to 326 IAC 2-6 (Emission Reporting). The source also has potential to emit greater than or equal to 250 tons per year of VOC; therefore, an emission statement covering the previous calendar year must be submitted by July 1 annually. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4.

#### 326 IAC 5-1 (Opacity Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

#### 326 IAC 6-4 (Fugitive Dust Emissions)

This source is subject to 326 IAC 6-4 for fugitive dust emissions. Pursuant to 326 IAC 6-4 (Fugitive Dust Emissions), fugitive dust shall not be visible crossing the boundary or property line of a source. Observances of visible emissions crossing property lines may be refuted by factual data expressed in 326 IAC 6-4-2(1), (2) or (3).

### State Rule Applicability - Individual Facilities

#### 326 IAC 4-2 (Burning Regulations - Incinerators)

That pursuant to 326 IAC 4-2-2 (Incinerators) and CP 091-1937 issued December 6, 1990, the calciner, which is part of the thermal sand reclamation system, shall:

- (a) Consist of primary and secondary chambers or the equivalent.
- (b) Be equipped with a primary burner unless burning wood products.
- (c) Comply with 326 IAC 5-1 (Opacity Limitations) and 326 IAC 2 (Permit Review Rules).

- (d) Be maintained properly as specified by the manufacturer and approved by IDEM.
- (e) Be operated according to the manufacturer's recommendation and only burn waste approved by the IDEM.
- (f) Comply with other state and/or local rules or ordinances regarding installation and operation of incinerators.
- (g) Be operated so that emissions of hazardous material including, but not limited to, viable pathogenic bacteria, dangerous chemical or gases, or noxious odors are prevented.
- (h) Not create a nuisance or a fire hazard.
- (i) Not emit particulate matter (PM) in excess of 0.3 pound per 1000 pounds of dry exhaust gas corrected to 50% excess air.

The operation of this calciner shall be terminated immediately upon noncompliance with any of the above mentioned requirements.

326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from this source shall not exceed the amounts shown in the table below:

Facility	Control Device	Process Weight Rate (tons/hr)	Emission Limit (lbs PM/hr)	Calculated Potential Emissions After Controls (at max. throughput) (lbs PM/hr)
Inoculation process P04*	Melt shop dust collector C06	13.76	23.75	3.01
Magnesium wire treatment processes P05a and P05b	Dust collector C14 and Room blast dust collector C09	13.76	23.75	1.36
Pouring/casting P06 and Castings cooling P07**	Uncontrolled	82.56 (13.76 tons metal and 68.8 tons sand from castings)	49.37	28.77
High bay shakeout system P09a	high bay shakeout dust collector C01	82.56 (13.76 tons metal and 68.8 tons sand from castings)	49.37	2.62
Center bay shakeout system P09b	center bay shakeout dust collector C02	82.56 (13.76 tons metal and 68.8 tons sand from castings)	49.37	2.62
Mechanical reclamation system P10	mechanical reclaim dust collector C04	68.8	47.60	7.38
Thermal sand reclamation system P11	Dust collector C05	6	13.62	0.64
Pneumatic room blast operations P12a	room blast dust collector C09	1.376	5.08	0.47
Small casting blasters and BCP blast P12b	blast operations dust collector C03	13.76	23.75	3.50
Cleaning and grinding operations P13	Dust collectors C15 and C07	13.76	23.75	0.15

Facility	Control Device	Process Weight Rate (tons/hr)	Emission Limit (lbs PM/hr)	Calculated Potential Emissions After Controls (at max. throughput) (lbs PM/hr)
Core Sand Handling P17	Dust collector C08	68.80	47.60	11.10

\* Casting Service shall re-direct inoculation emissions exhausting through Vent 24 to the melt shop dust collector, C06, within six (6) months after issuance of the Part 70 permit. Once all inoculation emissions are vented to dust collector C06, these emissions shall be limited pursuant to 326 IAC 2-2-3 (PSD BACT). Since the emission limits pursuant to 326 IAC 2-2-3 are more stringent than the limits pursuant to 326 IAC 6-3-2, the limits pursuant to 326 IAC 6-3-2 shall no longer apply to the inoculation process.

\*\* Since there are no controls for pouring/casting and castings cooling operation, controlled emissions represent emissions at the limited metal throughput of 60,000 tons per year.

The above emission limits are based on the following equations:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour and} \\ P = \text{process weight rate in tons per hour}$$

or

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 55.0 P^{0.11} - 40 \quad \text{where } E = \text{rate of emission in pounds per hour and} \\ P = \text{process weight rate in tons per hour}$$

The dust collectors C09, C14, C04, C05, C03, and C08 shall be in operation at all times the associated facilities are in operation, in order to comply with this limit.

Potential particulate emissions from the high bay and center bay shakeout systems and the cleaning and grinding operation are less than the respective allowable particulate emissions, therefore, the high bay and center bay shakeout systems and the cleaning and grinding operation can comply with this rule.

The five (5) electric induction furnaces and the scrap and charge handling operation are not subject to the requirements of this rule because pursuant to 326 IAC 6-3-1(c), this rule does not apply if the limitation established in the rule is less stringent than applicable limitations in 326 IAC 2-2 (PSD), 326 IAC 2-3 (Emission Offset), 326 IAC 6-1, 326 IAC 11, 326 IAC 12, or 326 IAC 20. Since the applicable PM emission limit established by 326 IAC 2-2-3 (PSD) for the dust collector C06 controlling the five (5) electric induction furnaces, the scrap and charge handling operation, and the inoculation operation is more stringent than the PM emission limit established by 326 IAC 6-3, the requirements of this rule do not apply. Since all of the emissions from the inoculation operation are not currently vented to dust collector C06, the inoculation operation will remain subject to 326 IAC 6-3-2 until all inoculation emissions are vented to dust collector C06 as required in the Part 70 permit.

Pursuant to 326 IAC 6-3-2(e)(2), particulate emissions from any process not exempt under 326 IAC 6-3-1(b) or (c) which has a maximum process weight rate less than 100 pounds per hour and the methods in 326 IAC 6-3-2(b) through (d) do not apply shall not exceed 0.551 pounds per hour. This limit applies to the following insignificant activities:

- (a) The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, welding equipment.
- (b) Grinding and machining operations controlled with fabric filters, scrubbers, mist collectors, wet collectors and electrostatic precipitators with a design grain loading of less than or equal to 0.03 grains per actual cubic foot and a gas flow rate less than or equal to 4000 actual cubic feet per minute, including the following: deburring; buffing; polishing; abrasive blasting; pneumatic conveying; and woodworking operations.
- (c) Woodworking operations in the pattern repair shop, with emissions controlled by a dust collector, referred to as C07, and exhausting to stack S07.

#### 326 IAC 6-3-2 (Process Operations)

On June 12, 2002, revisions to 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes) became effective; this rule was previously referred to as 326 IAC 6-3 (Process Operations). As of the date this permit is being issued these revisions have not been approved by EPA into the Indiana State Implementation Plan (SIP); therefore, the following requirements from the previous version of 326 IAC 6-3 (Process Operations) which has been approved into the SIP will remain applicable requirements until the revisions to 326 IAC 6-3 are approved into the SIP and the condition is modified in a subsequent permit action.

Pursuant to 40 CFR 52 Subpart P, the particulate matter (PM) from the casting painting operation, referred to as process P14, shall be limited by the following:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour and} \\ P = \text{process weight rate in tons per hour}$$

Under the rule revision, particulate from the casting painting operation (P14) shall be controlled by a dry particulate filter, and the Permittee shall operate the control device in accordance with manufacturer's specifications.

The core and mold refractory wash coating operation, referred to as process P18, is not subject to this rule because the methods of application used are dip and flow coating. Therefore, pursuant to 326 IAC 6-3-1(b), they are not subject to this rule.

The pattern and core box release agent coating operation, referred to as process P20a, is not subject to this rule because there are no particulate emissions from this process since the release agent contains no solids.

#### 326 IAC 8-1-6 (New Facilities, General Reduction Requirements)

This rule applies to facilities constructed after January 1, 1980 with potential VOC emissions of equal to or greater than 25 tons per year, not regulated by other provisions of Article 8.

The requirements of this rule were not included in the Part 70 permit for the casting painting operation, referred to as process P14, the expendable pattern casting operation, referred to as process P08, the core and mold refractory wash coating operation, referred to as process P18, and the pattern and core box release agent coating operation, referred to as process P20a. Each of these facilities was constructed prior to January 1, 1980.

The source has accepted a throughput limitation for each of the high bay shakeout operation (P09a) and the center bay shakeout operation (P09b), each constructed after 1980, so that the throughput of metal to each operation shall not exceed 41,500 tons per twelve (12) consecutive month period, with compliance determined at the end of each month for each of the high bay shakeout operation and the center bay shakeout operation so that VOC emissions from each operation are limited to less than 25 tons per year. VOC emissions from each operation shall not exceed 1.2 pounds per ton of metal throughput. Therefore, the requirements of this rule were not included in the Part 70 permit for these operations.

Pursuant to 326 IAC 8-1-6 (BACT) and CP 091-2238-00018, issued on January 21, 1994, the BACT for the mold making operations, referred to as P16, and the core making operations, referred to as P17, shall consist of the following:

- (a) The binder usage shall be limited to 30 pounds of binder per ton of sand used.
- (b) The resin usage shall be limited to 20 pounds of resin per ton of sand used.

326 IAC 8-2-9 (Miscellaneous Metal Coating)

The requirements of 326 IAC 8-2-9 (Miscellaneous Metal Coating Operations) were not included in the Part 70 permit for the casting painting operation (P14), constructed in 1975, because this facility was constructed prior to 1980. The requirements of this rule were not included in the Part 70 permit for the core and mold refractory wash coating operations and the pattern and core box release agent coating operations because they are not metal coating operations.

326 IAC 8-3-2 (Cold Cleaner Operations)

The cold cleaner degreasing operation is subject to this rule because it is a cold cleaning operation that was constructed after January 1, 1980. Pursuant to 326 IAC 8-3-2 (Cold Cleaner Operations), for cold cleaning operations constructed after January 1, 1980, the Permittee shall:

- (a) Equip the cleaner with a cover;
- (b) Equip the cleaner with a facility for draining cleaned parts;
- (c) Close the degreaser cover whenever parts are not being handled in the cleaner;
- (d) Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases;
- (e) Provide a permanent, conspicuous label summarizing the operation requirements;
- (f) Store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a manner that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere.

326 IAC 8-3-5 (Cold Cleaner Degreaser Operation and Control)

The Safety Kleen parts washer is not subject to the requirements of 326 IAC 8-3-5 because the rule only applies to cold cleaner degreasers without a remote solvent reservoir. Since this parts washer does have a remote solvent reservoir, it is not subject to the requirements of 326 IAC 8-3-5.

326 IAC 8-6 (Organic Solvent Emission Limitations)

This rule applies to sources commencing operation after October 7, 1974 and prior to January 1, 1980, located anywhere in the state with potential emissions of 100 tons or greater per year of VOC. This source commenced operation prior to October 7, 1974, therefore it is not subject to the requirements of this rule.



### Testing Requirements

- (a) After the inoculation process has been re-directed to the meltshop baghouse, but no later than 180 days after issuance of this Part 70 permit, the Permittee shall perform PM, PM10, lead, and opacity testing on stack S06, using methods as approved by the Commissioner, in order to demonstrate compliance with the Best Available Control Technology (BACT) requirements pursuant to 326 IAC 2-2 (PSD) for the five (5) electric induction furnaces, the inoculation process, and the charge handling operation all of which exhaust through stack S06 and to ensure that the requirements of 326 IAC 2-2 (PSD) do not apply for lead emissions. These tests shall be repeated at least once every five (5) years from the date of these valid compliance demonstrations. Testing shall be conducted in accordance with Section C- Performance Testing. PM10 includes filterable and condensable PM10.
- (b) Within 180 days after issuance of this Part 70 permit, the Permittee shall perform PM and PM10 testing for the pouring/casting and casting cooling operation using methods as approved by the Commissioner, in order to demonstrate compliance with the particulate emission limits pursuant to 326 IAC 2-2 and 326 IAC 6-3-2. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with Section C- Performance Testing. PM10 includes filterable and condensable PM10.
- (c) Within 180 days after issuance of this Part 70 permit, the Permittee shall perform PM and PM10 testing on the magnesium wire treatment process exhausting through dust collectors C14 and C09, using methods as approved by the Commissioner, in order to demonstrate compliance with the particulate emission limits pursuant to 326 IAC 2-2 and 326 IAC 6-3-2. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with Section C- Performance Testing. PM10 includes filterable and condensable PM10.
- (d) Within 180 days after issuance of this Part 70 permit, the Permittee shall perform PM and PM10 testing on the mechanical reclamation system exhausting through dust collector C04 and the thermal sand reclamation system exhausting through dust collector C05 using methods as approved by the Commissioner, in order to demonstrate compliance with the particulate emission limits pursuant to 326 IAC 2-2 and 326 IAC 6-3-2. These tests shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with Section C- Performance Testing. PM10 includes filterable and condensable PM10.
- (e) Within 180 days after issuance of this Part 70 permit, the Permittee shall perform PM and PM10 testing on the high bay shakeout operation exhausting through dust collector C01 and the center bay shakeout operation exhausting through dust collector C02 using methods as approved by the Commissioner, in order to demonstrate compliance with the particulate emission limits pursuant to 326 IAC 2-2 and 326 IAC 6-3-2. These tests shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with Section C- Performance Testing. PM10 includes filterable and condensable PM10.
- (f) Within 180 days after issuance of this Part 70 permit, the Permittee shall perform PM and PM10 testing on the core sand handling operation exhausting through dust collector C08 using methods as approved by the Commissioner, in order to demonstrate compliance with the particulate emission limits pursuant to 326 IAC 2-2 and 326 IAC 6-3-2. These tests shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with Section C- Performance Testing. PM10 includes filterable and condensable PM10.

## **Compliance Requirements**

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that are found more or less directly within state and federal rules and the violation of which serves as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

The compliance monitoring requirements applicable to this source are as follows:

1. The five (5) electric induction furnaces, the scrap and charge handling process, and the inoculation process, have applicable compliance monitoring conditions as specified below:
  - (a) Visible emission notations of the melt shop dust collector (C06) stack exhaust shall be performed once per shift during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.
  - (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
  - (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
  - (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
  - (e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.

- (f) The Permittee shall record the total static pressure drop across the dust collector used in conjunction with the five (5) electric induction furnaces, the scrap and charge handling process, and the inoculation process, at least once per shift when the five (5) electric induction furnaces, the scrap and charge handling process, and the inoculation process are in operation when venting to the atmosphere. When for any one reading, the pressure drop across the dust collector is outside the normal range of 2.0 and 6.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C- Compliance Response Plan - Preparation, Implementation, Records, and Reports. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.
- The instrument used for determining the pressure shall comply with Section C - Pressure Gauge and Other Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated at least once every six (6) months.
- (g) An inspection shall be performed each calendar quarter of all bags controlling the five (5) electric induction furnaces, the scrap and charge handling process, and the inoculation process. Inspections required by this condition shall not be performed in consecutive months. All defective bags shall be replaced.
- (h) In the event that bag failure has been observed:
- (1) For multi-compartment units, the affected compartments will be shut down immediately until the failed units have been repaired or replaced. Within eight (8) business hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) business hours of discovery of the failure and shall include a timetable for completion. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit. If operations continue after bag failure is observed and it will be 10 days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.
  - (2) For single compartment dust collectors, if failure is indicated by a significant drop in the dust collector's pressure readings with abnormal visible emissions or the failure is indicated by an opacity violation, or if bag failure is determined by other means, such as gas temperatures, flow rates, air infiltration, leaks, dust traces or triboflows, then failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

These monitoring conditions are necessary because the dust collector for the five (5) electric induction furnaces, the scrap and charge handling process, and the inoculation process must operate properly to ensure compliance with 326 IAC 2-2-3 (PSD), BACT and 326 IAC 2-7 (Part 70).

2. The high and center bay shakeout operations, the small castings blasters and BCP shot blast, the mechanical reclamation system, the thermal sand reclamation system, the cleaning and grinding operation, the magnesium wire treatment process, and the pneumatic room blast operations, have applicable compliance monitoring conditions as specified below:

- (a) Visible emission notations of each of the dust collectors C01, C02, C03, C04, C05, C07, C09, C14, and C15 stack exhausts shall be performed once per shift during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) The Compliance Response Plan for these units shall contain troubleshooting contingency and response steps for when an abnormal emission is observed. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.
- (f) The Permittee shall record the total static pressure drop across each of the dust collectors C01, C02, C03, C04, C05, C07, C09, C14, and C15 used in conjunction with the high and center bay shakeout operations, the small castings blasters and BCP shot blast, the mechanical reclamation system, the thermal sand reclamation system, the cleaning and grinding operation, the magnesium wire treatment process, and the pneumatic room blast operations, at least once per shift when their associated facilities are in operation when venting to the atmosphere. When for any one reading, the pressure drop across the dust collectors C01, C02, or C03 is outside the normal range of 3.0 and 9.0 inches of water or a range established during the latest stack test, or the pressure drop across the dust collector C04 is outside the normal range of 4.0 and 9.0 inches of water or a range established during the latest stack test, or the pressure drop across the dust collectors C05 or C09 is outside the normal range of 2.0 and 6.0 inches of water or a range established during the latest stack test, or the pressure drop across the dust collectors C07, C14, or C15 is outside the normal range of 3.0 and 7.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C- Compliance Response Plan - Preparation, Implementation, Records, and Reports. A pressure reading that is outside the above mentioned ranges is not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.

The instrument used for determining the pressure shall comply with Section C - Pressure Gauge and Other Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated at least once every six (6) months.

- (g) An inspection shall be performed each calendar quarter of all bags controlling the high and center bay shakeout operations, the small castings blasters and BCP shot blast, the mechanical reclamation system, the thermal sand reclamation system, the cleaning and grinding operation, the magnesium wire treatment process, and the pneumatic room blast operations. Inspections required by this condition shall not be performed in consecutive months. All defective bags shall be replaced.
- (h) In the event that bag failure has been observed:
  - (1) For multi-compartment units, the affected compartments will be shut down immediately until the failed units have been repaired or replaced. Within eight (8) business hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) business hours of discovery of the failure and shall include a timetable for completion. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit. If operations continue after bag failure is observed and it will be 10 days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.
  - (2) For single compartment dust collectors, if failure is indicated by a significant drop in the dust collector's pressure readings with abnormal visible emissions or the failure is indicated by an opacity violation, or if bag failure is determined by other means, such as gas temperatures, flow rates, air infiltration, leaks, dust traces or triboflows, then failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

These monitoring conditions are necessary because the dust collectors for the high and center bay shakeout operations, the small castings blasters and BCP shot blast, the mechanical reclamation system, the thermal sand reclamation system, the cleaning and grinding operation, the magnesium wire treatment process, and the pneumatic room blast operations must operate properly to ensure compliance with 326 IAC 2-2 (PSD), 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes) and 326 IAC 2-7 (Part 70).

- 3. The casting painting operation and the core sand handling operation, have applicable compliance monitoring conditions as specified below:

- (a) Daily inspections shall be performed to verify the placement, integrity and particle loading of the filters. To monitor the performance of the dry filters, weekly observations shall be made of the overspray from the surface coating booth stack (S11) while the booth is in operation. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.
- (b) Monthly inspections shall be performed of the coating emissions from the stack and the presence of overspray on the rooftops and the nearby ground. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when a noticeable change in overspray emission, or evidence of overspray emission is observed. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.
- (c) Additional inspections and preventive measures shall be performed as prescribed in the Preventive Maintenance Plan.
- (d) Visible emission notations of the dust collector C08 stack exhaust shall be performed once per shift during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.
- (e) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (f) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (g) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (h) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed. Failure to take response steps in accordance with Section C - Compliance Response Plan – Preparation, Implementation, Records and Reports shall be considered a deviation from this permit.
- (i) The Permittee shall record the total static pressure drop across the dust collector C08 used in conjunction with the core sand handling operation, at least once per shift when the process is in operation when venting to the atmosphere. When for any one reading, the pressure drop across the dust collector is outside the normal range of 4.0 and 9.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C- Compliance Response Plan - Preparation, Implementation, Records, and Reports. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan – Preparation, Implementation, Records and Reports shall be considered a deviation from this permit.

The instrument used for determining the pressure shall comply with Section C - Pressure Gauge and Other Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated at least once every six (6) months.

- (j) An inspection shall be performed each calendar quarter of all bags controlling the core sand handling operation when venting to the atmosphere. A dust collector inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting to the indoors. Inspections required by this condition shall not be performed in consecutive months. All defective bags shall be replaced.
- (k) In the event that bag failure has been observed:
  - (1) For multi-compartment units, the affected compartments will be shut down immediately until the failed units have been repaired or replaced. Within eight (8) business hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) business hours of discovery of the failure and shall include a timetable for completion. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit. If operations continue after bag failure is observed and it will be 10 days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.
  - (2) For single compartment dust collectors, if failure is indicated by a significant drop in the dust collector's pressure readings with abnormal visible emissions or the failure is indicated by an opacity violation, or if bag failure is determined by other means, such as gas temperatures, flow rates, air infiltration, leaks, dust traces or triboflows, then failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

These monitoring conditions are necessary because the dry filters for the casting painting operation and the dust collector for the core sand handling operation must operate properly to ensure compliance with 326 IAC 2-2 (PSD), 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes), 40 CFR 52 Subpart P, and 326 IAC 2-7 (Part 70).

## Conclusion

The operation of this gray and ductile iron foundry shall be subject to the conditions of the attached proposed Part 70 Permit No. T091-6141-00018.

## Appendix B BACT Analysis

Source Name: Casting Service  
Source Location: 300 Philadelphia Street, LaPorte, Indiana 46350  
County: LaPorte  
SIC Code: 3321  
Operation Permit No.: T091-6141-00018  
Permit Reviewer: Trish Earls/EVP

This existing source is a major stationary source because it is one of the 28 listed source categories and at least one attainment regulated pollutant is emitted at a rate of 100 tons per year. IDEM has determined that the installation of the electric induction furnace F5 in 1990 allowed an increased utilization of the rest of the foundry processes downstream of the furnace. The original construction permit CP091-2238-00018, issued on January 21, 1994, did not account for those additional emissions, therefore, the limits in those permits are not sufficient to render PSD not applicable. The source has emitted PM and PM10 at levels in excess of the PSD significance levels and therefore is unable to accept conditions now that would render PSD not applicable. IDEM is now requiring the furnace F5 to comply with the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) for PM and PM10. Also, since furnace F5 exhausts to the same dust collector, identified as C06, as furnaces F1 through F4, emissions from these units are also being reviewed under the requirements of 326 IAC 2-2 (PSD).

The PSD regulations require a source to apply the Best Available Control Technology (BACT) to each pollutant for which a significant net emissions increase will occur as a result of the major modification. In this case, calculations of future potential minus past actual emissions show that PM, PM10, and VOC have net emissions increases which exceed the PSD threshold levels of 25 tons per year, 15 tons per year, and 40 tons per year, respectively. Since there are typically no VOC emissions from melting operations, a BACT analysis was not performed for VOC emissions from the electric induction furnaces. A BACT analysis for PM and PM10 emissions was performed on emissions from electric induction furnaces F1 through F5, all of which exhaust through dust collector C06.

BACT is essentially an emission limitation based on the maximum degree of emission reduction for each pollutant, taking into account environmental, economic and energy impacts. In no event can the application of BACT result in an emission of any pollutant in excess of an applicable NSPS, NESHAP or Indiana emission limitation. The BACT analysis for the PM and PM10 emissions from the electric induction furnace F5 modification is based on the "top-down" approach required by U.S. EPA. The most stringent emission limit available for similar or identical units was determined as the top option and then compared to the proposed operation to determine its technical and economic feasibility. Economic as well as energy and environmental impacts are considered in a BACT analysis.

Once the top option has been determined, its technical feasibility must be determined. If the top option is feasible, that control is considered to be BACT unless economic, energy, or environmental impacts preclude its use. If the top option is technically or economically infeasible for the source, the next most stringent emission limit is evaluated. The process continues until an emission level is selected.

The lowest emission level achieved in practice by a similar source for PM and PM10 was determined by reviewing the most recent compilation of the US EPA's RACT/BACT/LAER Clearinghouse (RBLC) on the US EPA website. The RBLC is a compilation of emission limit determinations voluntarily submitted by air pollution control agencies throughout the United States. The following table lists previous BACT determinations for iron foundries in the United States, as provided by the RBLC and other IDEM permits.



Source Name	Facility Description	Control Device	Emission Limits		Stack Test Results	
			PM (gr/dscf)	PM10 (gr/dscf)	PM (gr/dscf)	PM10 (gr/dscf)
Atlas Foundry Company, Inc., Marion, Indiana	Electric Induction Furnace B	baghouse	0.002	0.005	0.001	0.003
Atlas Foundry Company, Inc., Marion, Indiana	Both electric induction furnaces	baghouse	0.005	0.004	0.002	Not tested
Auburn Foundry, Plant #2, Auburn, Indiana	Electric Induction Furnaces	baghouse	0.007	0.007	0.0002	Not tested
Auburn Foundry, Plant #1, Auburn, Indiana	Electric Induction Furnace #4	baghouse	0.287	NA	0.0002	Not tested
Dana Corporation, Richmond, Indiana	Group 4 Furnace	baghouse	0.015	NA	0.011	Not tested
Navistar International Transmission, Indianapolis, Indiana	Phase 3 electric melt furnace	baghouse	0.0136	0.008	Not tested	0.002
Gartland Foundry Company, Terre Haute, Indiana	Electric Induction Furnaces EU130 and EU140	baghouse	0.020	0.020	0.005 0.002	Not tested Not tested
Ardmore Foundry, Oklahoma	EIF Melting Operations	baghouse	NA	0.0045	Not tested	Not tested
Ravenna Casting Center, Inc., Michigan	Iron Melt Shop	baghouse	0.01 lb/1,000 exhaust	NA	Not tested	Not tested
Aarrow Cast, Wisconsin	Six EIFs	baghouse	0.01	NA	Not tested	Not tested
<b>Lowest Limits Demonstrated to be achieved in practice (gr/dscf):</b>		<b>baghouse</b>	<b>0.002</b>	<b>0.005</b>		

Notes:

1. NA = not required in permit
2. Navistar International Transmission performed two compliance stack tests on 11/30/95 and 8/03/01 for PM10.
3. Ardmore Foundry's baghouse controls more than just the EIF. According to the RBLC database, the collector also controls the holding furnace, pouring, mold cooling, shakeout, shotblast, grinding, sand handling, storage and mold making.
4. Ravenna Casting Center, Inc.'s baghouse controls more than just the EIF. According to the RBLC database, the collector also controls gas preheater, inoculation and pouring.
5. The PM10 entry for the second Atlas Foundry Company and the only entry for Ardmore Foundry were not selected as BACT since the emission limits have not been demonstrated as achievable through a compliance stack test.

After reviewing the RBLC database and discussion with vendors, a baghouse dust collector was chosen as BACT for the electric induction furnaces. Since the "top-down" approach (US EPA, 1990) was utilized and the most stringent emission limitation that is achievable in practice by a class or category of emission sources was selected as BACT, no further economic cost effectiveness analysis was performed.

Casting Service determined BACT by researching the RBLC database and recent NSR permit limits demonstrated achievable in practice through stack tests. It was found that the limits in recent NSR permits were more stringent than the limits in the RBLC database. Emission limits placed in these recent NSR permits for which compliance has not been demonstrated through a compliance stack test shall not be used to determine BACT. Use of recent NSR permits with compliance stack test results, concludes in a determination that BACT would be a baghouse with a maximum outlet grain loading of 0.002 gr/dscf of filterable PM and 0.005 gr/dscf of total PM/PM10. Casting Service will comply with this limit by using the melt shop dust collector or baghouse, C06, to control emissions from all five (5) electric induction furnaces with an outlet grain loading that will not exceed 0.002 gr/dscf of filterable PM and 0.005 gr/dscf of total PM/PM10. Additionally, opacity limits of 10% for the dust collector C06 and 3% for any building opening based on six-minute averages have been included as part of the BACT requirements. The limit for the dust collector was established by determining what opacity levels other similar emission units have been able to achieve. Using the results from the RBLC database search of other similar sources discussed above and other IDEM permits, it was observed that 0% opacity from the baghouse controlling the furnace(s) was achieved for most of these sources. Therefore, an average opacity limit of 10%, to include a safety factor, is required as part of the BACT requirements. A building opening average opacity limit of 3% is required to assure good capture efficiency of the dust collector. Compliance with these limits shall be demonstrated through stack testing.

Additionally, the proposed BACT limits for PM and PM10 listed above were compared to the emission limits that are applicable to this source pursuant to the NESHAP for iron and steel foundries, 40 CFR 63.7680 - 63.7762, Subpart EEEEE. Pursuant to this rule, the Permittee must comply with 40 CFR 63, Subpart EEEEE on and after April 23, 2007, or accept and meet an enforceable HAP emissions limit below the major source threshold prior to April 23, 2007. In the case that the source does not accept and meet an enforceable HAP emissions limit below the major source threshold, the applicable PM emission limit for the electric induction furnaces pursuant to 40 CFR 63.7690(a)(1)(i) is 0.005 gr/dscf. Since the proposed BACT limit is more stringent than this limit, compliance with the BACT limit will ensure compliance with 40 CFR 63, Subpart EEEEE.

## **Appendix C**

# **Air Quality Analysis**

### **Introduction**

Casting Service operates a gray and ductile iron foundry located at 300 Philadelphia Street in La Porte, Indiana. In 1989, Casting Service received a construction permit from the Office of Air Quality (OAQ) for the installation and operation of the F5 electric induction furnace. Through the Title V permit review process, the OAQ reviewed the contents of this construction permit and observed that the permit's Technical Support Document (TSD) did not include emission calculations for the potential increase in emissions of all processes located upstream and downstream of the melting furnace. After performing an emissions analysis, the OAQ determined that a PSD Construction Permit Application was required for this construction permit. An air quality modeling analysis was required and treats the iron foundry as a major source.

August Mack prepared the permit application for Casting Service. The OAQ received the permit application on May 9, 2003. Modeling revisions to the application were received on January 22, 2004 and March 23, 2004. This document provides the OAQ review of the modeling section of the permit application.

### **Air Quality Impact Objectives**

The purpose of the air quality impact analysis in the permit application is to accomplish the following objectives. Each objective is individually addressed in this document in each section outlined below.

- A. Establish which pollutants require an air quality analysis based on PSD significant emission rates.
- B. Provide analyses of actual stack heights with respect to Good Engineering Practice (GEP), the meteorological data used, a description of the model used in the analysis, and the receptor grid utilized for the analyses.
- C. Determine the significant impact level, the area impacted by the source's emissions and background air quality levels.
- D. Demonstrate that the source will not cause or contribute to a violation of the National Ambient Air Quality Standard (NAAQS) or PSD increment if the applicant exceeds significant impact levels.
- E. Perform an analysis of any air toxic compound with a health risk factor on the general population.
- F. Perform a qualitative analysis of the source's impact on general growth, soils, vegetation and visibility in the impact area with emphasis on any Class I areas. The nearest Class I area is Kentucky's Mammoth Cave National Park, which is more than 100 kilometers from the proposed site in Pike County, Indiana.
- G. Summarize the Air Quality Analysis

### **Analysis Summary**

The air quality impact analysis determined that concentrations did exceed significant impact levels. A refined modeling analysis was performed and showed no violation of the NAAQS or PSD increment. Potential health hazards are also identified through a Hazardous Air Pollutant (HAP) analysis. Some HAP concentrations were above the .5% of the Permissible Exposure Limit (PEL) and the NATA/CEP benchmarks. Based on the modeling results, the source will not have a significant impact upon federal air quality standards.

## **Section A**

### **Pollutants Analyzed for Air Quality Impact**

The PSD requirements, 326 IAC 2-2, apply in attainment and unclassifiable areas and require an air quality impact analysis of each regulated pollutant emitted in significant amounts by a major stationary source or modification. Significant emission levels for each pollutant are defined in 326 IAC 2-2-1. Particulate Matter less than 10 microns (PM<sub>10</sub>), Sulfur Dioxide (SO<sub>2</sub>), Nitrogen Dioxide (NO<sub>2</sub>), Volatile Organic Compounds (VOC)(an Ozone (O<sub>3</sub>) precursor), and Carbon Monoxide (CO), are the pollutants that will be emitted from the iron foundry facility. Therefore, an air quality analysis is required for these pollutants which exceeded their significant emission rates as shown in Table 1:

**TABLE 1**  
**Significant Emission Rates for PSD**

POLLUTANT	SOURCE EMISSION RATE (Facility Totals)	SIGNIFICANT EMISSION RATE	PRELIMINARY AQ ANALYSIS REQUIRED
	(tons/year)	(tons/year)	
PM <sub>10</sub>	44.01	15.0	Yes
NO <sub>2</sub>	22.03	40.0	No
VOCs (O <sub>3</sub> )	99.39	40.0	No
CO	18.45	100.0	No
SO <sub>2</sub>	1.05	40.0	No
Lead	0.02	0.6	No

## **Section B**

### **Stack Height Compliance with Good Engineering Practice (GEP)**

Stacks should comply with GEP requirements established in 326 IAC 1-7-1. If stacks are lower than GEP, excessive ambient concentrations due to aerodynamic downwash may occur. Stacks taller than 65 meters (213 feet) are limited to GEP, the stack height for establishing emission limitations. The GEP stack height takes into account the distance and dimensions of nearby structures, which would affect the downwind wake of the stack. The downwind wake is considered to extend five times the lesser of the structure's height or width. A GEP stack height is determined for each nearby structure by the following formula:

$$H_g = H + 1.5L$$

Where:

- H<sub>g</sub> is the GEP stack height
- H is the structure height
- L is the structure's lesser dimension (height or width)

Since the stack heights of the facility were below GEP stack height the effect of aerodynamic downwash will be accounted for in the air quality analysis for the iron foundry.

The meteorological data used in the Industrial Source Complex Short Term (ISCST3) model consisted of 1990 through 1994 surface data from the South Bend Airport Weather Service station merged with the mixing heights from Peoria, Illinois Airport National Weather Service station. The meteorological data was purchased through the National Oceanic and Atmospheric Administration (NOAA) and National Climatic Data Center (NCDC) and preprocessed into ISCST3 ready format using U.S. EPA's PCRAMMET.

### **Model Description**

August Mack and OAQ used the ISCST3 model, version 02035 to determine maximum off-property concentrations or impacts for each pollutant. All regulatory default options were utilized in the U.S. EPA approved model, as listed in the 40 Code of Federal Register Part 51, Appendix W "Guideline on Air Quality Models". The Auer Land Use Classification Scheme was used to determine the land use in the area. The area is considered primarily rural; therefore, a rural classification was used.

### **Receptor Grid**

OAQ modeling utilized the same receptor grids generated by August Mack, which extended around the property line in 100 meter increments. A grid of 100-meter spacing out to 1 kilometer from the property line was utilized. This was extended to a grid of 200-meter spacing out to 5 kilometers and a grid of 500-meter spacing out to 10 kilometers.

### **Section C**

#### **Significant Impact Level/Significant Impact Area (SIA) and Background Air Quality Levels.**

August Mack and OAQ performed an air quality modeling analysis to determine if the source exceeded the PSD significant impact levels (concentrations). If the source's concentrations exceed these levels, further air quality analysis is required. Modeling for SO<sub>2</sub>, NO<sub>2</sub> and CO was not required because the results did not exceed its significant emission rates. PSD regulations do not require modeling since emissions were below significant emission rate thresholds. PM<sub>10</sub> did exceed significant impact levels and refined modeling is required. Significant impact levels are defined by the following time periods in Table 2 below with all maximum-modeled concentrations from the worst case operating scenarios.

**TABLE 2**  
**Significant Impact Analysis**

POLLUTANT	TIME AVERAGING PERIOD	MAXIMUM MODELED IMPACTS (ug/m <sup>3</sup> )	SIGNIFICANT IMPACT LEVEL (ug/m <sup>3</sup> )	REFINED AQ ANALYSIS REQUIRED
PM <sub>10</sub>	24 Hour	27.83	5	Yes
PM <sub>10</sub>	Annual	6.8	1	Yes

### **Pre-construction Monitoring Analysis**

A comparison of the preliminary modeling results was compared to the PSD preconstruction monitoring thresholds. The results are shown in the table below.

**TABLE 3**  
**Preconstruction Monitoring Analysis**

POLLUTANT	TIME AVERAGING PERIOD	MAXIMUM MODELED IMPACT (ug/m3)	DEMINIMIS LEVEL (ug/m3)	ABOVE DE MINIMIS LEVEL
PM10	24 Hour	6.8	13	NO

PM10 did not trigger the preconstruction monitoring. Casting Service can satisfy the one-year preconstruction monitoring requirement for PM10 since there is an existing air quality monitoring data representative of the area.

### **Background Concentrations**

Although these monitors are approximately 35 kilometers from the Casting Service, it is thought they are representative of the overall region. EPA's "Ambient Monitoring Guidelines for Prevention of Significant Deterioration" (EPA-450/4-87-007) Section 2.4.1 is cited for approval of the regional monitoring sites for this area. The monitoring results from these monitoring sites are considered conservative. For all 24-hour background concentrations, the averaged second highest monitoring values were used. Annual background concentrations were taken from the maximum annual values. It was agreed between Casting Service and IDEM that a conservative approach be taken in place of the preconstruction monitoring requirement.

**TABLE 4**  
**Existing Monitoring Data Used For Background Concentrations (1998- 2000)**

Pollutant	Monitoring Site	Approximate Distance From Site	Averaging Period	Concentration ug/m3
PM10	18-127-0022	35 km	Annual	18
PM10	18-127-0022	35 km	24 Hour	37

### **NAAQS Compliance Analysis and Results**

IDEM supplied emission inventories of PM10 sources within a 50-kilometer radius of Casting Services.

NAAQS modeling for the second highest 24-hour and highest annual concentrations for PM10 was conducted and compared to the respective NAAQS limit. OAQ modeling results are shown in Table 5. All maximum-modeled concentrations of PM10 were conducted and compared to the respective NAAQS limit. All maximum-modeled concentrations during the five years were below the NAAQS limits and further modeling was not required.

**TABLE 5**  
**NAAQS Analysis**

Pollutant	Year	Time-Averaging Period	Maximum Concentration ug/m3	Background Concentration ug/m3	Total ug/m3	NAAQS Limit ug/m3
PM10	1990	Annual	6.8	18	24.8	50
PM10	1992	24 hour	24.13	37	61.1	150

### **Analysis and Results of Source Impact on the PSD Increment**

Maximum allowable increases (PSD increments) are established by 326 IAC 2-2 for PM10. This rule also limits a source to no more than 80 percent of the available PSD increment to allow for future growth. Since the impacts for PM10 from Casting Service modeled above significant impact levels, a PSD increment analysis for the existing major sources in La Porte County and its surrounding counties was required. Results of the PM10 increment modeling are summarized in Table 6 below.

**TABLE 6**  
**PM10 Increment Analysis**

Pollutant	Year	Time-Averaging Period	Maximum Concentration ug/m3	PSD Increment ug/m3	Percent Impact on the PSD Increment
PM10	1992	Annual	23.98	30	79.9%

## **Part E**

### **Hazardous Air Toxics Analysis and Results**

The OAQ presently requests data concerning the emission of 189 HAPs listed in the 1990 Clean Air Act Amendments (CAAA) which are either carcinogenic or otherwise considered toxic and may be used by industries in the State of Indiana. These substances are listed as air toxic compounds on the State of Indiana, Department of Environmental Management, Office of Air Quality's construction permit application Form Y. Any HAP emissions are subject to toxic modeling analysis.

As a precautionary measure, August Mack and OAQ modeled the toxics and compared the maximum modeled 8-hour concentration with the 0.5% PEL value and the annual National Air Toxic Assessment/Cumulative Exposure Project (NATA/CEP) benchmark. The OAQ maximum-modeled concentrations are shown in Table 7. August Mack used SCREEN3 and OAQ used ISCST3. OAQ's HAP concentration values are higher since building downwash was better characterized in ISC.

**Table 7**  
**Air Toxic Analysis**

Toxic Compound	grams/second	8 hour Conc. (ug/m3)	0.5% of PEL (ug/m3)	Annual Conc. (ug/m3)	NATA/CEP Benchmark
Acetaldehyde	.0000	0.00	1800	.00	.45
Acrolein	.00009	.04	1.25	.00	N/A
Benzene	.08091	40.49	16	1.55	.13
Dimethylphthalate	.2647	132.47	25	5.06	N/A
Ethylbenzene	.0000	0.00	2175	.00	N/A
Formaldehyde	.0000	0.00	4.65	.00	.077
Naphthalene	.0027	1.35	250	.05	N/A
Styrene	.0000	0.00	2100	.00	N/A
Dichlorobenzene	.0002	.00	2250	.00	.091
Arsenic	.00011	.06	.05	.0021	.00023
MIBK	.2519	123.4	2050	6.59	N/A
Cadmium	.00006	.028	.025	.00109	.00056
Chromium	.0078	3.9	2.5	.15	.000083
Cobalt	.00003	.01	.5	.00	N/A
Manganese	.0104	5.19	25	.20	N/A
Antimony	.0016	.79	2.5	.03	N/A
Nickel	.0129	6.5	5	.25	.0038
Selenium	.0000	.00	1	.00	N/A
Phenol	.08081	30.5	95	1.2	N/A
Hexane	.00806	8.46	9000	.45	N/A
Tetrachloroethylene (pce)	.48300	241.70	3350	9.22	.17

Highlighted cells show the toxics, which exceeded the .5% of PEL and/or the NATA/CEP benchmark. The results are for the informational purposes only and may indicate a potential health problem.

## **Part F**

### **Additional Impact Analysis**

All PSD permit applicants must prepare additional impacts analysis for each pollutant subject to regulation under the Act. This analysis assesses the impacts on soils and vegetation, caused by any increase in emissions of any regulated pollutant from the source. The Casting Service PSD permit application provided an additional impact analysis performed by August Mack.

### **Economic Growth**

The project did not create a significant need for new housing for employees during installation and operation of the facility. Most employees were drawn from the nearby population, so that additional housing was not required. Given the population and that the employees required by Casting Services were drawn from the present work force, staffing and operation of this project, the F5 electric induction furnace modification did not have a negative impact on regional residential trends.

### **Soils and Vegetation Analysis**

A list of soil types present in the general areas was determined. Soil types include the following: Sandy and Loamy Lacustrine deposits and Eolian sand, Alluvial and Outwash deposits, Eolian sand deposits.

Vegetation in the vicinity of the proposed facility consists mainly of grasses. No sensitive aspects of the soil and vegetation in the area surrounding the facility have been identified. The secondary NAAQs, which establish the ambient concentration levels to protect soil or vegetation, will not be violated.

### **Federal Endangered Species Analysis**

Federally endangered or threatened species are listed by the U.S. Fish and Wildlife Service; Division of Endangered Species for Indiana and includes 12 species of mussels, 4 species of birds, 2 species of bat and butterflies and 1 specie of snake. The mussels and birds listed are commonly found along major rivers and lakes while the bats are found near caves. The facility is not expected to have any additional adverse effects on the habitats of the species than what has already occurred from the industrial and residential activities in the area.

Federally endangered or threatened plants as listed by the U.S. Fish and Wildlife Service, Division of Endangered Species for Indiana list two threatened and one endangered species of plants. The endangered plant is found along the sand dunes in northern Indiana while the two threatened species do not thrive in industrialized and residential areas. The facility is not expected to impact the area.

### **Additional Analysis Conclusions**

The nearest Class I area to the casting facility is Mammoth Cave National Park in Kentucky outside the 100 km Class I range. Thus no visibility analysis is required.

Finally, the results of the additional impact analysis conclude the operation of the iron foundry facility will have no significant impact on economic growth, soils, or vegetation in the immediate vicinity or on any Class I area.



**Part G**

**Summary of Air Quality Analysis**

Casting Service has applied for a PSD construction permit to modify their facility in LaPorte County, Indiana. August Mack of Indianapolis, Indiana prepared the PSD application. LaPorte County was designated as attainment for all criteria pollutants at the time of the modification which was in 1990. PM10 emission rates associated with the proposed casting facility exceeded the respective significant emission rates. Modeling results taken from the latest version of the ISCST3 model showed PM10, impacts were predicted to be greater than the significant impact levels. The NAAQS and increment modeling for PM10 showed no violations of the standards. An air toxic analysis was performed and some modeled concentrations were above the 0.5% of PEL and the NATA/CEP benchmarks. The nearest Class I area is Mammoth Cave National Park in Kentucky over 100 kilometers away from the source. Additional impact analysis showed no significant impact on economic growth, soils, vegetation or visibility in the areas surrounding the casting facility.

Total Potential To Emit (tons/year)												
Emissions Generating Activity												
Pollutant	Electric Induction Furnaces	Scrap and Charge Handling	Pouring & Casting & Castings Cooling	Shakeout High and Center Bay	Pneumatic Room Blast	Casting Blasters & BCP Blast	Cleaning and Grinding	Mechanical Sand Reclamation	Thermal Sand Reclamation	Magnesium Treatment	Paved Roads	SUBTOTAL
PM	54.24	36.16	253.13	385.72	102.46	1024.57	59.06	1084.84	94.66	108.48	0.79	3204.11
PM10	51.83	21.70	124.15	270.00	10.25	102.46	68.71	162.73	14.39	108.48	0.16	934.86
SO2	0.00	0.00	1.21	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	1.23
NOx	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.63	0.00	0.00	3.23
VOC	0.00	0.00	8.44	144.64	0.00	0.00	0.00	0.00	4.63	0.00	0.00	157.71
CO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.21	0.00	0.00	2.21
total HAPs	5.34	1.37	15.34	14.65	3.89	38.91	2.24	0.00	0.05	0.00	0.00	81.79
worst case single HAP	(Lead) 3.28	(Nickel) 0.54	(Nickel) 3.80	(Nickel) 5.79	(Nickel) 1.54	(Nickel) 15.37	(Nickel) 0.89	0.00	(Hexane) 0.047	0.00	0.00	(Nickel) 27.92
Total emissions based on rated capacities at 8,760 hours/year.												
**For the purposes of determining Title V applicability, PM10 (not PM) is the regulated pollutant in consideration												
Total Limited Potential To Emit (tons/year)												
Emissions Generating Activity												
Pollutant	Electric Induction Furnaces	Scrap and Charge Handling	Pouring & Casting & Castings Cooling	Shakeout High and Center Bay	Pneumatic Room Blast	Casting Blasters & BCP Blast	Cleaning and Grinding	Mechanical Sand Reclamation	Thermal Sand Reclamation	Magnesium Treatment	Paved Roads	SUBTOTAL
PM	1.48	0.99	126.00	4.28	0.76	5.72	0.26	13.41	2.87	2.46	0.79	159.02
PM10	1.41	0.59	61.80	3.00	0.08	0.57	0.31	2.01	0.62	2.46	0.16	73.01
SO2	0.00	0.00	0.60	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.62
NOx	0.00	0.00	0.30	0.00	0.00	0.00	0.00	0.00	2.63	0.00	0.00	2.93
VOC	0.00	0.00	4.20	27.00	0.00	0.00	0.00	0.00	4.63	0.00	0.00	35.83
CO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.21	0.00	0.00	2.21
total HAPs	0.15	0.04	7.64	0.16	0.030	0.22	0.01	0.00	0.05	0.00	0.00	8.30
worst case single HAP	(Lead) 0.09	(Nickel) 0.02	(Nickel) 1.89	(Nickel) 0.06	(Nickel) 0.01	(Nickel) 0.09	(Nickel) 0.004	0.00	(Hexane) 0.047	0.00	0.00	(Nickel) 2.13
Total emissions based on rated capacities at 8,760 hours/year.												
**For the purposes of determining Title V applicability, PM10 (not PM) is the regulated pollutant in consideration												

Total Potential To Emit (tons/year)												
Emissions Generating Activity												
Pollutant	Inoculation	Scrap Preheater	Storage Piles*	Expendable Pattern Casting**	Core Sand Handling	Casting Painting	Core and Mold Coating	Pattern & Core Box Coating	Core and Mold Making ***	Other natural gas usage	SUBTOTAL	TOTAL
PM	241.08	0.15	0.14	0.00	1084.84	3.46	0.00	0.00	0.00	0.48	1330.15	4534.26
PM10	241.08	0.59	0.06	0.00	162.73	3.46	0.00	0.00	0.00	1.93	409.85	1344.71
SO2	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.78	0.15	0.98	
NOx	0.00	7.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.39	33.19	36.42
VOC	0.30	0.43	0.00	35.71	0.00	26.69	99.03	43.25	83.05	1.40	289.86	447.57
CO	0.00	6.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21.33	27.88	30.09
total HAPs	0.00	0.15	0.00	17.53	0.00	16.38	0.00	42.82	11.02	0.48	88.38	170.17
worst case single HAP	0.00	(Hexane) 0.14	0.00	(Benzene) 7.32	0.00	(MIBK) 8.76	0.00	(TCE) 42.82	(Dimethylphthalate) 10.50	(Hexane) 0.46	(TCE) 42.82	(TCE) 42.82

Emissions Generating Activity												
Pollutant	Inoculation	Scrap Preheater	Storage Piles*	Expendable Pattern Casting	Core Sand Handling	Casting Painting	Core and Mold Coating	Pattern & Core Box Coating	Core and Mold Making	Other natural gas usage	SUBTOTAL	TOTAL
PM	6.57	0.15	0.14	0.00	5.64	0.14	0.00	0.00	0.00	0.48	13.12	172.14
PM10	6.57	0.59	0.06	0.00	0.85	0.14	0.00	0.00	0.00	1.93	10.14	83.15
SO2	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.78	0.15	0.98	1.60
NOx	0.00	7.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.39	33.19	36.12
VOC	0.15	0.43	0.00	11.86	0.00	26.69	99.03	43.25	83.05	1.40	265.86	301.69
CO	0.00	6.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21.33	27.88	30.09
total HAPs	0.00	0.15	0.00	5.82	0.00	16.38	0.00	42.82	11.02	0.48	76.67	84.97
worst case single HAP	0.00	(Hexane) 0.14	0.00	(Benzene) 2.43	0.00	(MIBK) 8.76	0.00	(TCE) 42.82	(Dimethylphthalate) 10.50	(Hexane) 0.46	(TCE) 42.82	(TCE) 42.82

\*\*For the purposes of determining Title V applicability, PM10 (not PM) is the regulated pollutant in consideration

## Appendix A: Grey Iron Foundry Operations

**Company Name:** Casting Service  
**Address City IN Zip:** 300 Philadelphia Street, LaPorte, Indiana 46350  
**Operating Permit No.:** T091-6141  
**Plt ID:** 091-00018  
**Reviewer:** Trish Earls

SCC# 3-04-003-03		Maximum Throughput					
Electric Induction Furnaces F1 - F5		LBS/HR	TON/HR				
TYPE OF MATERIAL			27520	13.76	Control Device: Dust Collector C06		
			Limited Throughput		Control Efficiency: 94.53%		
Iron			TON/YR	TON/HR			
			60000	6.85			
	PM lbs/ton metal charged 0.9	PM10 lbs/ton metal charged 0.86	SOx lbs/ton metal charged 0.00	NOx lbs/ton metal charged 0.00	VOC lbs/ton metal charged 0.00	CO lbs/ton metal charged 0.00	Lead lbs/ton metal charged 0.0545
Potential Uncontrolled Emissions lbs/hr	12.38	11.83	0.0	0.0	0.0	0.0	0.75
<b>Potential Uncontrolled Emissions tons/year</b>	<b>54.24</b>	<b>51.83</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>3.28</b>
Potential Controlled Emissions lbs/hr	0.68	0.65	0.0	0.0	0.0	0.0	0.04
<b>Potential Controlled Emissions tons/year</b>	<b>2.97</b>	<b>2.84</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.18</b>
Limited Controlled Emissions lbs/hr	0.34	0.32	0.00	0.00	0.00	0.00	0.02
<b>Limited Controlled Emissions tons/year</b>	<b>1.48</b>	<b>1.41</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.09</b>

Note: Emission factors from USEPA's Factor Information Retrieval (FIRE) Data System, version 6.24.

SCC# 3-04-003-15		Maximum Throughput					
Scrap and Charge Handling (P01)		LBS/HR	TON/HR				
TYPE OF MATERIAL			27520	13.76	Control Device: Dust Collector C06		
			Limited Throughput		Control Efficiency: 94.53%		
Metal			TON/YR	TON/HR			
			60000	6.85			
	PM lbs/ton metal charged 0.6	PM10 lbs/ton metal charged 0.36	SOx lbs/ton metal charged 0.00	NOx lbs/ton metal charged 0.00	VOC lbs/ton metal charged 0.00	CO lbs/ton metal charged 0.00	Lead lbs/ton metal charged 0.00
Potential Uncontrolled Emissions lbs/hr	8.26	4.95	0.0	0.0	0.0	0.0	0.0
<b>Potential Uncontrolled Emissions tons/year</b>	<b>36.16</b>	<b>21.70</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
Potential Controlled Emissions lbs/hr	0.45	0.27	0.00	0.00	0.00	0.00	0.00
<b>Potential Controlled Emissions tons/year</b>	<b>1.98</b>	<b>1.19</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
Limited Controlled Emissions lbs/hr	0.23	0.14	0.00	0.00	0.00	0.00	0.00
<b>Limited Controlled Emissions tons/year</b>	<b>0.99</b>	<b>0.59</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

Note: Emission factors from USEPA's Factor Information Retrieval (FIRE) Data System, version 6.24.

## Appendix A: Grey Iron Foundry Operations

**Company Name:** Casting Service  
**Address City IN Zip:** 300 Philadelphia Street, LaPorte, Indiana 46350  
**Operating Permit No.:** T091-6141  
**Plt ID:** 091-00018  
**Reviewer:** Trish Earls

SCC# 3-04-003-20		Maximum Throughput					
Pouring and Casting (P06) and Castings Cooling (P07)*		LBS/HR		TON/HR		Control Device: N/A	
TYPE OF MATERIAL		27520		13.76		Control Efficiency: N/A	
Iron		Limited Throughput		TON/YR		TON/HR	
		60000		6.85			
	PM	PM10	SOx	NOx	VOC	CO	Lead
	lbs/ton metal charged	lbs/ton metal charged	lbs/ton metal charged	lbs/ton metal charged	lbs/ton metal charged	lbs/ton metal charged	lbs/ton metal charged
	4.2	2.06	0.02	0.01	0.14	0.00	0.00
Potential Uncontrolled Emissions lbs/hr	57.79	28.35	0.28	0.14	1.93	0.0	0.0
<b>Potential Uncontrolled Emissions tons/year</b>	<b>253.13</b>	<b>124.15</b>	<b>1.21</b>	<b>0.60</b>	<b>8.44</b>	<b>0.00</b>	<b>0.00</b>
Limited Emissions lbs/hr	28.77	14.11	0.14	0.07	0.96	0.0	0.0
<b>Limited Emissions tons/year</b>	<b>126.00</b>	<b>61.80</b>	<b>0.60</b>	<b>0.30</b>	<b>4.20</b>	<b>0.00</b>	<b>0.00</b>
Note: Emission factors from USEPA's Factor Information Retrieval (FIRE) Data System, version 6.24. *Since this is a floor molding process, pouring and cooling emissions are calculated together.							
SCC# 3-04-003-31		Maximum Throughput					
High Bay Shakeout (P09a)		LBS/HR		TON/HR		Control Device: Dust Collector C01	
TYPE OF MATERIAL		27520		13.76		Control Efficiency: 94.05%	
Iron		Limited Throughput		TON/YR		TON/HR	
		41500		4.74			
	PM	PM10	SOx	NOx	VOC	CO	Lead
	lbs/ton metal charged	lbs/ton metal charged	lbs/ton metal charged	lbs/ton metal charged	lbs/ton metal charged	lbs/ton metal charged	lbs/ton metal charged
	3.2	2.24	0.0	0.0	1.2	0.0	0.0
Potential Uncontrolled Emissions lbs/hr	44.03	30.82	0.00	0.00	16.51	0.00	0.00
<b>Potential Uncontrolled Emissions tons/year</b>	<b>192.86</b>	<b>135.00</b>	<b>0.00</b>	<b>0.00</b>	<b>72.32</b>	<b>0.00</b>	<b>0.00</b>
Potential Controlled Emissions lbs/hr	2.62	1.83	0.00	0.00	16.51	0.00	0.00
<b>Potential Controlled Emissions tons/year</b>	<b>11.48</b>	<b>8.03</b>	<b>0.00</b>	<b>0.00</b>	<b>72.32</b>	<b>0.00</b>	<b>0.00</b>
Limited Controlled Emissions lbs/hr	0.90	0.63	0.00	0.00	5.68	0.00	0.00
<b>Limited Controlled Emissions tons/year</b>	<b>3.95</b>	<b>2.77</b>	<b>0.00</b>	<b>0.00</b>	<b>24.90</b>	<b>0.00</b>	<b>0.00</b>
Note: Emission factors from USEPA's Factor Information Retrieval (FIRE) Data System, version 6.24.							

## Appendix A: Grey Iron Foundry Operations

**Company Name:** Casting Service  
**Address City IN Zip:** 300 Philadelphia Street, LaPorte, Indiana 46350  
**Operating Permit No.:** T091-6141  
**Pit ID:** 091-00018  
**Reviewer:** Trish Earls

SCC# 3-04-003-31		Maximum Throughput					
Center Bay Shakeout (P09b)		LBS/HR	TON/HR				
TYPE OF MATERIAL		27520	13.76	Control Device: Dust Collector C02			
		Limited Throughput		Control Efficiency: 94.05%			
Iron		TON/YR	TON/HR				
		41500	4.74				
	PM	PM10	SOx	NOx	VOC	CO	Lead
	lbs/ton metal charged	lbs/ton metal charged	lbs/ton metal charged	lbs/ton metal charged	lbs/ton metal charged	lbs/ton metal charged	lbs/ton metal charged
	3.2	2.24	0.0	0.0	1.2	0.0	0.0
Potential Uncontrolled Emissions lbs/hr	44.03	30.82	0.00	0.00	16.51	0.00	0.00
<b>Potential Uncontrolled Emissions tons/year</b>	<b>192.86</b>	<b>135.00</b>	<b>0.00</b>	<b>0.00</b>	<b>72.32</b>	<b>0.00</b>	<b>0.00</b>
Potential Controlled Emissions lbs/hr	2.62	1.83	0.00	0.00	16.51	0.00	0.00
<b>Potential Controlled Emissions tons/year</b>	<b>11.48</b>	<b>8.03</b>	<b>0.00</b>	<b>0.00</b>	<b>72.32</b>	<b>0.00</b>	<b>0.00</b>
Limited Controlled Emissions lbs/hr	0.90	0.63	0.00	0.00	5.68	0.00	0.00
<b>Limited Controlled Emissions tons/year</b>	<b>3.95</b>	<b>2.77</b>	<b>0.00</b>	<b>0.00</b>	<b>24.90</b>	<b>0.00</b>	<b>0.00</b>
Note: Emission factors from USEPA's Factor Information Retrieval (FIRE) Data System, version 6.24.							
SCC# 3-04-003-40		Maximum Throughput					
Pneumatic Room Blast Operations (P12a)		LBS/HR	TON/HR				
TYPE OF MATERIAL		2752	1.376	Control Device: Dust Collector C09			
		Limited Throughput		Control Efficiency: 98.01%			
Iron		TON/YR	TON/HR				
		4500	0.51				
	PM	PM10	SOx	NOx	VOC	CO	Lead
	lbs/ton metal charged	lbs/ton metal charged	lbs/ton metal charged	lbs/ton metal charged	lbs/ton metal charged	lbs/ton metal charged	lbs/ton metal charged
	17	1.7	0.00	0.00	0.00	0.00	0.00
Potential Uncontrolled Emissions lbs/hr	23.39	2.34	0.0	0.0	0.0	0.0	0.0
<b>Potential Uncontrolled Emissions tons/year</b>	<b>102.46</b>	<b>10.25</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
Potential Controlled Emissions lbs/hr	0.47	0.05	0.0	0.0	0.0	0.0	0.0
<b>Potential Controlled Emissions tons/year</b>	<b>2.04</b>	<b>0.20</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
Limited Controlled Emissions lbs/hr	0.17	0.02	0.00	0.00	0.00	0.00	0.00
<b>Limited Controlled Emissions tons/year</b>	<b>0.76</b>	<b>0.08</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
Note: Emission factors from USEPA's Factor Information Retrieval (FIRE) Data System, version 6.24.							

## Appendix A: Grey Iron Foundry Operations

Company Name: Casting Service  
 Address City IN Zip: 300 Philadelphia Street, LaPorte, Indiana 46350  
 Operating Permit No.: T091-6141  
 Pit ID: 091-00018  
 Reviewer: Trish Earls

SCC# 3-04-003-40

Mechanical Shotblasting Operations/Small Castings Blasters and BCP Blast (P12b)

TYPE OF MATERIAL	Throughput		Control Device: Dust Collector C03 Control Efficiency: 98.51%				
	LBS/HR	TON/HR					
	27520	13.76					
Iron	Limited Throughput						
	TON/YR	TON/HR					
	45000	5.14					
	PM lbs/ton metal charged	PM10 lbs/ton metal charged	SOx lbs/ton metal charged	NOx lbs/ton metal charged	VOC lbs/ton metal charged	CO lbs/ton metal charged	Lead lbs/ton metal charged
	17	1.7	0.0	0.0	0.0	0.0	0.0
Potential Uncontrolled Emissions lbs/hr	233.92	23.39	0.0	0.0	0.0	0.0	0.0
<b>Potential Uncontrolled Emissions tons/year</b>	<b>1024.57</b>	<b>102.46</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
Potential Controlled Emissions lbs/hr	3.50	0.35	0.0	0.0	0.0	0.0	0.0
<b>Potential Controlled Emissions tons/year</b>	<b>15.32</b>	<b>1.53</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
Limited Controlled Emissions lbs/hr	1.31	0.13	0.00	0.00	0.00	0.00	0.00
<b>Limited Controlled Emissions tons/year</b>	<b>5.72</b>	<b>0.57</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

Note: Emission factors from USEPA's Factor Information Retrieval (FIRE) Data System, version 6.24.

SCC# 3-04-003-60

Cleaning and Grinding (P13)

TYPE OF MATERIAL	Maximum Throughput		Control Device: Baghouse C15 or C07 Control Efficiency: 98.80%				
	LBS/HR	TON/HR					
	27520	13.76					
Iron	Limited Throughput						
	TON/YR	TON/HR					
	45000	5.14					
	PM lbs/ton metal charged	PM10 lbs/ton metal charged	SOx lbs/ton metal charged	NOx lbs/ton metal charged	VOC lbs/ton metal charged	CO lbs/ton metal charged	Lead lbs/ton metal charged
	0.98	1.14	0.0	0.0	0.0	0.0	0.0
Potential Uncontrolled Emissions lbs/hr	13.48	15.69	0.0	0.0	0.0	0.0	0.0
<b>Potential Uncontrolled Emissions tons/year</b>	<b>59.06</b>	<b>68.71</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
Potential Controlled Emissions lbs/hr	0.16	0.19	0.0	0.0	0.0	0.0	0.0
<b>Potential Controlled Emissions tons/year</b>	<b>0.71</b>	<b>0.82</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
Limited Controlled Emissions lbs/hr	0.06	0.07	0.0	0.0	0.0	0.0	0.0
<b>Limited Controlled Emissions tons/year</b>	<b>0.26</b>	<b>0.31</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

Note: Emission factors based on stack test conducted on June 27, 2002 on the grinding system.

## Appendix A: Grey Iron Foundry Operations

Company Name: Casting Service  
 Address City IN Zip: 300 Philadelphia Street, LaPorte, Indiana 46350  
 Operating Permit No.: T091-6141  
 Pit ID: 091-00018  
 Reviewer: Trish Earls

SCC# 3-04-003-50							
Sand Handling/Mechanical Reclamation (P10)							
TYPE OF MATERIAL	Maximum Throughput			Control Device: Dust Collector C04			
	LBS/HR		TON/HR	Control Efficiency: 97.02%			
Sand	137600		68.8				
	Limited Throughput						
	TON/YR		TON/HR				
	250000		28.54				
	PM lbs/ton sand handled 3.6	PM10 lbs/ton sand handled 0.54	SOx lbs/ton sand handled 0.00	NOx lbs/ton sand handled 0.00	VOC lbs/ton sand handled 0.00	CO lbs/ton sand handled 0.00	Lead lbs/ton sand handled 0.00
Potential Uncontrolled Emissions lbs/hr	247.68	37.15	0.00	0.00	0.00	0.00	0.00
<b>Potential Uncontrolled Emissions tons/year</b>	<b>1084.84</b>	<b>162.73</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
Potential Controlled Emissions lbs/hr	7.38	1.11	0.00	0.00	0.00	0.00	0.00
<b>Potential Controlled Emissions tons/year</b>	<b>32.33</b>	<b>4.85</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
Limited Controlled Emissions lbs/hr	3.06	0.46	0.00	0.00	0.00	0.00	0.00
<b>Limited Controlled Emissions tons/year</b>	<b>13.41</b>	<b>2.01</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

Note: Emission factors from USEPA's Factor Information Retrieval (FIRE) Data System, version 6.24.

SCC# 3-04-003-50							
Sand Handling/Thermal Sand Reclamation & Calcining Unit (P11)							
TYPE OF MATERIAL	Maximum Throughput		Control Device: Dust Collector C05				
	LBS/HR	TON/HR	Control Efficiency: 97.02%				
Sand	12000	6					
	PM lbs/ton sand handled 3.6	PM10 lbs/ton sand handled 0.54	SOx lbs/ton sand handled 0.0	NOx lbs/ton sand handled 0.0	VOC lbs/ton sand handled 0.17	CO lbs/ton sand handled 0.0	Lead lbs/ton sand handled 0.0
Potential Uncontrolled Emissions lbs/hr	21.60	3.24	0.00	0.00	1.02	0.00	0.00
Potential Uncontrolled Emissions tons/year	94.61	14.19	0.00	0.00	4.49	0.00	0.00
Potential Controlled Emissions lbs/hr	0.64	0.10	0.00	0.00	1.02	0.00	0.00
Potential Controlled Emissions tons/year	2.82	0.42	0.00	0.00	4.49	0.00	0.00
Limited Controlled Emissions lbs/hr	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Limited Controlled Emissions tons/year	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Note: PM and PM10 emission factors from USEPA's Factor Information Retrieval (FIRE) Data System, version 6.24.

VOC emission factor from manufacturer's data.



## Appendix A: Grey Iron Foundry Operations

**Company Name:** Casting Service  
**Address City IN Zip:** 300 Philadelphia Street, LaPorte, Indiana 46350  
**Operating Permit No.:** T091-6141  
**Pit ID:** 091-00018  
**Reviewer:** Trish Earls

SCC# 3-04-003-21 Magnesium Treatment Process (P05a and P05b)							
TYPE OF MATERIAL	Maximum Throughput		Control Device:		C09 or C14		
	LBS/HR		TON/HR		Control Efficiency: 94.53%		
	27520		13.76				
	Combined Limited Throughput		TON/YR		TON/HR		
Iron	50000		5.71				
	PM lbs/ton metal charged 1.8	PM10 lbs/ton metal charged 1.8	SOx lbs/ton metal charged 0.0	NOx lbs/ton metal charged 0.0	VOC lbs/ton metal charged 0.0	CO lbs/ton metal charged 0.0	Lead lbs/ton metal charged 0.0
Potential Uncontrolled Emissions lbs/hr	24.77	24.77	0.0	0.0	0.0	0.0	0.0
<b>Potential Uncontrolled Emissions tons/year</b>	<b>108.48</b>	<b>108.48</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
Potential Controlled Emissions lbs/hr	1.36	1.36	0.0	0.0	0.00	0.0	0.0
<b>Potential Controlled Emissions tons/year</b>	<b>5.94</b>	<b>5.94</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
Limited Controlled Emissions lbs/hr	0.56	0.56	0.00	0.00	0.00	0.00	0.00
<b>Limited Controlled Emissions tons/year</b>	<b>2.46</b>	<b>2.46</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

Note: Emission factors from USEPA's Factor Information Retrieval (FIRE) Data System, version 6.24.

SCC# 3-04-003-10 Inoculation (P04)							
TYPE OF MATERIAL	Maximum Throughput		Control Device:		Dust Collector C06		
	LBS/HR		TON/HR		Control Efficiency: 94.53%		
	27520		13.76				
	Limited Throughput		TON/YR		TON/HR		
Iron	60000		6.85				
	PM lbs/ton metal charged 4.0	PM10 lbs/ton metal charged 4.0	SOx lbs/ton metal charged 0.0	NOx lbs/ton metal charged 0.0	VOC lbs/ton metal charged 0.005	CO lbs/ton metal charged 0.0	Lead lbs/ton metal charged 0.0
Potential Uncontrolled Emissions lbs/hr	55.04	55.04	0.00	0.00	0.07	0.00	0.00
<b>Potential Uncontrolled Emissions tons/year</b>	<b>241.08</b>	<b>241.08</b>	<b>0.00</b>	<b>0.00</b>	<b>0.30</b>	<b>0.00</b>	<b>0.00</b>
Potential Controlled Emissions lbs/hr	3.01	3.01	0.00	0.00	0.07	0.00	0.00
<b>Potential Controlled Emissions tons/year</b>	<b>13.20</b>	<b>13.20</b>	<b>0.00</b>	<b>0.00</b>	<b>0.30</b>	<b>0.00</b>	<b>0.00</b>
Limited Controlled Emissions lbs/hr	1.50	1.50	0.00	0.00	0.03	0.00	0.00
<b>Limited Controlled Emissions tons/year</b>	<b>6.57</b>	<b>6.57</b>	<b>0.00</b>	<b>0.00</b>	<b>0.15</b>	<b>0.00</b>	<b>0.00</b>

Note: Emission factors from USEPA's Factor Information Retrieval (FIRE) Data System, version 6.24.

## Appendix A: Grey Iron Foundry Operations

**Company Name:** Casting Service  
**Address City IN Zip:** 300 Philadelphia Street, LaPorte, Indiana 46350  
**Operating Permit No.:** T091-6141  
**Pit ID:** 091-00018  
**Reviewer:** Trish Earls

SCC# 3-04-003-50 Core Sand Handling							
TYPE OF MATERIAL	Maximum Throughput			Control Device: Dust Collector C08			
	LBS/HR		TON/HR	Control Efficiency: 95.52%			
	137600		68.8				
Sand	Limited Throughput						
	TON/YR		TON/HR				
	70000		7.99				
	PM lbs/ton sand handled 3.6	PM10 lbs/ton sand handled 0.54	SOx lbs/ton sand handled 0.0	NOx lbs/ton sand handled 0.0	VOC lbs/ton sand handled 0.0	CO lbs/ton sand handled 0.0	Lead lbs/ton sand handled 0.0
Potential Uncontrolled Emissions lbs/hr	247.68	37.15	0.00	0.00	0.00	0.00	0.00
<b>Potential Uncontrolled Emissions tons/year</b>	<b>1084.84</b>	<b>162.73</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
Potential Controlled Emissions lbs/hr	11.10	1.66	0.00	0.00	0.00	0.00	0.00
<b>Potential Controlled Emissions tons/year</b>	<b>48.60</b>	<b>7.29</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
Limited Controlled Emissions lbs/hr	1.29	0.19	0.00	0.00	0.00	0.00	0.00
<b>Limited Controlled Emissions tons/year</b>	<b>5.64</b>	<b>0.85</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

Note: Emission factors from USEPA's Factor Information Retrieval (FIRE) Data System, version 6.24.

**Appendix A: Emission Calculations**  
**HAP Emissions from Foundry Operations**

**Company Name:** Casting Service  
**Address City IN Zip:** 300 Philadelphia Street, LaPorte, Indiana 46350  
**Operating Permit No.:** T091-6141  
**Plt ID:** 091-00018  
**Reviewer:** Trish Earls  
**Date:** 27-Aug-03

Process	Maximum Rate (tons iron/hr)	Limited Rate (tons iron/hr)	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Eac (ton/yr)	Control Device	Control Efficiency (%)	Emission Factor Source
Melting - Electric Induction Furnaces F1 - F5 EPA SCC# 3-04-003-03	13.76	6.85	lead	0.05450	3.28	0.09	Dust Collector	94.53%	See Appendix A, page 2
			manganese	0.01080	0.65	0.02			MSDS for ductile iron
			nickel	0.01350	0.81	0.02			MSDS for ductile iron
			chromium	0.00810	0.49	0.01			MSDS for ductile iron
			antimony	0.00167	0.10	0.00			EPA Speciate database
			Total Metal HAPs		5.34	0.15			
			<b>TOTAL</b>		<b>5.34</b>	<b>0.15</b>			
Scrap and Charge Handling (P01) EPA SCC# 3-04-003-15	13.76	6.85	manganese	0.00720	0.43	1.2E-02	Dust Collector	94.53%	MSDS for ductile iron
			nickel	0.00900	0.54	1.5E-02			MSDS for ductile iron
			chromium	0.00540	0.33	8.9E-03			MSDS for ductile iron
			antimony	0.00111	6.7E-02	1.8E-03			EPA Speciate database
			arsenic	0.00008	4.8E-03	1.3E-04			EPA Speciate database
			Total Metal HAPs		1.37	0.04			
			<b>TOTAL</b>		<b>1.37</b>	<b>0.04</b>			
Pouring & Casting (P06) and Casting Cooling (P07) SCC# 3-04-003-20, 25	13.76	6.85	manganese	0.05040	3.04	1.51		0.00%	MSDS for ductile iron
			nickel	0.06300	3.80	1.89			MSDS for ductile iron
			chromium	0.03780	2.28	1.13			MSDS for ductile iron
			antimony	0.00777	0.47	0.23			EPA Speciate database
			arsenic	0.00055	0.03	0.02			EPA Speciate database
			Total Metal HAPs		9.61	4.79			
			benzene	0.04858	2.93	1.46			EPA Speciate database
			phenol	0.00896	0.54	0.27			EPA Speciate database
			toluene	0.01974	1.19	0.59			EPA Speciate database
			xylene	0.01680	1.01	0.50			EPA Speciate database
			formaldehyde	0.00098	0.06	0.03			EPA Speciate database
			Total Organic HAPs		5.73	2.85			
			<b>TOTAL</b>		<b>15.34</b>	<b>7.64</b>			
Shakeout (P09a, P09b) SCC# 3-04-003-31	27.52	5.14	manganese	0.03840	4.63	5.1E-02	Dust Collector	94.05%	MSDS for ductile iron
			nickel	0.04800	5.79	6.4E-02			MSDS for ductile iron
			chromium	0.02880	3.47	3.9E-02			MSDS for ductile iron
			antimony	0.00592	0.71	7.9E-03			EPA Speciate database
			arsenic	0.00042	0.05	5.6E-04			EPA Speciate database
			Total Metal HAPs		14.65	0.16			
			<b>TOTAL</b>		<b>14.65</b>	<b>0.16</b>			
Shotblast Operation (P12b) SCC# 3-04-003-40	13.76	5.14	manganese	0.20400	12.29	6.8E-02	Dust Collector	98.51%	MSDS for ductile iron
			nickel	0.25500	15.37	8.6E-02			MSDS for ductile iron
			chromium	0.15300	9.22	5.1E-02			MSDS for ductile iron
			antimony	0.03145	1.90	1.1E-02			EPA Speciate database
			arsenic	0.00221	0.13	7.4E-04			EPA Speciate database
			Total Metal HAPs		38.91	0.22			
			<b>TOTAL</b>		<b>38.91</b>	<b>0.22</b>			
Shotblast Operation (P12a) SCC# 3-04-003-40	1.38	0.51	manganese	0.20400	1.23	9.1E-03	Dust Collector	98.01%	MSDS for ductile iron
			nickel	0.25500	1.54	1.1E-02			MSDS for ductile iron
			chromium	0.15300	0.92	6.8E-03			MSDS for ductile iron
			antimony	0.03145	0.19	1.4E-03			EPA Speciate database
			arsenic	0.00221	0.01	9.8E-05			EPA Speciate database
			Total Metal HAPs		3.89	0.03			
			<b>TOTAL</b>		<b>3.89</b>	<b>0.03</b>			
Grinding (P13) SCC# 3-04-003-50	13.76	5.14	manganese	0.01176	0.71	2.9E-03	Dust Collector	98.90%	MSDS for ductile iron
			nickel	0.01470	0.89	3.6E-03			MSDS for ductile iron
			chromium	0.00882	0.53	2.2E-03			MSDS for ductile iron
			antimony	0.00181	0.11	4.5E-04			EPA Speciate database
			arsenic	0.00013	7.8E-03	3.2E-05			
			Total Metal HAPs		2.24	9.2E-03			
			<b>TOTAL</b>		<b>2.24</b>	<b>9.2E-03</b>			

**Total Potential Emissions Before Controls**

Lead	3.28 tons/year
manganese	22.98 tons/year
nickel	28.73 tons/year
chromium	17.24 tons/year
antimony	3.54 tons/year
arsenic	0.24 tons/year
benzene	2.93 tons/year
phenol	0.54 tons/year
toluene	1.19 tons/year
xylene	1.01 tons/year
formaldehyde	0.06 tons/year
<b>Total Metal HAPs</b>	<b>81.75 tons/year</b>

**Total Limited Emissions After Controls**

Lead	0.09 tons/year
manganese	1.67 tons/year
nickel	2.09 tons/year
chromium	1.26 tons/year
antimony	0.26 tons/year
arsenic	0.02 tons/year
benzene	1.46 tons/year
phenol	0.27 tons/year
toluene	0.59 tons/year
xylene	0.50 tons/year
formaldehyde	0.03 tons/year
<b>Total Metal HAPs</b>	<b>8.24 tons/year</b>

**Methodology:**

Ef = Emission factor

Ebc = Potential Emissions before controls = Rate (units/hr) x Ef(lbs/unit) x 8760 hrs/yr / 2000 lbs/hr

Eac = Potential Emissions after controls = (1-efficiency/100) x Ebc

1 lb = 2000 tons

**Appendix A: Emissions Calculations**  
**Natural Gas Combustion Only**  
**MM BTU/HR <100**  
**Scrap Preheater**

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**Company Name:** Casting Service  
**Address City IN Zip:** 300 Philadelphia Street, LaPorte, Indiana 46350  
**Operating Permit No.:** T091-6141  
**Plt ID:** 091-00018  
**Reviewer:** Trish Earls  
**Date:** 27-Aug-03

Heat Input Capacity  
MMBtu/hr

Potential Throughput  
MMCF/yr

17.8

155.9

	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	0.6	100.0 **see below	5.5	84.0
Potential Emission in tons/yr	0.15	0.59	0.05	7.80	0.43	6.55

\*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

\*\*Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

### Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

See next page for HAPs emissions calculations.

**Appendix A: Emissions Calculations**  
**Natural Gas Combustion Only**  
**MM BTU/HR <100**  
**Scrap Preheater**  
**HAPs Emissions**

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**Company Name:** Casting Service  
**Address City IN Zip:** 300 Philadelphia Street, LaPorte, Indiana 46350  
**Operating Permit No.:** T091-6141  
**Plt ID:** 091-00018  
**Reviewer:** Trish Earls  
**Date:** 27-Aug-03

HAPs - Organics					
Emission Factor in lb/MMcf	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	1.637E-04	9.356E-05	5.847E-03	1.403E-01	2.651E-04

HAPs - Metals					
Emission Factor in lb/MMcf	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03
Potential Emission in tons/yr	3.898E-05	8.576E-05	1.091E-04	2.963E-05	1.637E-04

Methodology is the same as previous page.

The five highest organic and metal HAPs emission factors are provided above.  
 Additional HAPs emission factors are available in AP-42, Chapter 1.4.

**Appendix A: Emissions Calculations****Natural Gas Combustion Only****MM BTU/HR <100****Thermal Sand Reclamation Calcining Unit (P11)**

**Company Name:** Casting Service  
**Address City IN Zip:** 300 Philadelphia Street, LaPorte, Indiana 46350  
**Operating Permit No.:** T091-6141  
**Pit ID:** 091-00018  
**Reviewer:** Trish Earls  
**Date:** 27-Aug-03

Heat Input Capacity  
MMBtu/hr

Potential Throughput  
MMCF/yr

6.0

52.6

	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	0.6	100.0 **see below	5.5	84.0
Potential Emission in tons/yr	0.05	0.20	0.02	2.63	0.14	2.21

\*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

\*\*Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

**Methodology**

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

See next page for HAPs emissions calculations.

**Appendix A: Emissions Calculations**  
**Natural Gas Combustion Only**  
**MM BTU/HR <100**  
**Calcining Unit**  
**HAPs Emissions**

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**Company Name:** Casting Service  
**Address City IN Zip:** 300 Philadelphia Street, LaPorte, Indiana 46350  
**Operating Permit No.:** T091-6141  
**Plt ID:** 091-00018  
**Reviewer:** Trish Earls  
**Date:** 27-Aug-03

	HAPs - Organics				
Emission Factor in lb/MMcf	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	5.519E-05	3.154E-05	1.971E-03	4.730E-02	8.935E-05

	HAPs - Metals				
Emission Factor in lb/MMcf	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03
Potential Emission in tons/yr	1.314E-05	2.891E-05	3.679E-05	9.986E-06	5.519E-05

Methodology is the same as previous page.

The five highest organic and metal HAPs emission factors are provided above.  
 Additional HAPs emission factors are available in AP-42, Chapter 1.4.

**Appendix A: Emissions Calculations**  
**VOC and Particulate**  
**From Surface Coating Operations**

**Company Name:** Casting Service  
**Address City IN Zip:** 300 Philadelphia Street, LaPorte, Indiana 46350  
**Operating Permit No.:** T091-6141  
**Plt ID:** 091-00018  
**Reviewer:** Trish Earls

Material	Density (Lb/Gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Pounds of Material Used (lbs/hr)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential (ton/yr)	lb VOC/gal solids	Transfer Efficiency
Casting Painting (P14)															
E65A4	9.44	56.46%	0.0%	56.5%	0.0%	60.00%	7.25	5.33	5.33	4.09	98.24	17.93	3.46	8.88	75%
MIBK	8.12	100.00%	0.0%	100.0%	0.0%	0.00%	2.00	8.12	8.12	2.00	48.00	8.76	0.00	N/A	75%
Core and Mold Coating (P18)															
Water Based Core Wash*	20.86	0.50%	0.0%	0.5%	0.0%	0.00%	228.31	0.10	0.10	0.57	13.70	2.50	0.00	N/A	100%
Alcohol Based Core Wash*	6.55	99.00%	0.0%	99.0%	0.0%	0.00%	44.52	6.48	6.48	22.04	528.90	96.53	0.00	N/A	100%
Pattern and Core Boxes Coating (P20a)															
No-Bake Parting Spray 605	13.51	100.00%	0.0%	100.0%	0.0%	0.00%	9.87	13.51	13.51	9.87	236.99	43.25	0.00	N/A	50%

**State Potential Emissions**

**Add worst case coating to all solvents**

**38.58      925.83      168.96      3.46**

Casting Painting PM Control Eff.
96.04%

**Emissions After Control:**

**38.58      925.83      168.96      0.14**

**METHODOLOGY**

\* Emissions from core washes are based on a 50% flash off factor due to ignition of the cores to burn off the alcohol in the core wash.  
Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) \* Weight % Organics) / (1-Volume % water)  
Pounds of VOC per Gallon Coating = (Density (lb/gal) \* Weight % Organics)  
Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) \* Gal of Material (gal/unit) \* Maximum (units/hr)  
Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) \* Gal of Material (gal/unit) \* Maximum (units/hr) \* (24 hr/day)



**Appendix A: Emissions Calculations**  
**VOC and HAP**  
**From Expendable Pattern Casting**

**Company Name:** Casting Service  
**Address City IN Zip:** 300 Philadelphia Street, LaPorte, Indiana 46350  
**Operating Permit No.:** T091-6141  
**Plt ID:** 091-00018  
**Reviewer:** Trish Earls

Pollutant	Maximum Foam Throughput (lbs/hr)	Limited Foam Throughput (lbs/hr)	Emission Factor (lb emitted/lb foam)	Potential Emissions (lbs/hr)	Potential Emissions (tons/yr)	Limited Emissions (lbs/hr)	Limited Emissions (tons/yr)
VOC	68.75	22.83	0.1186	<b>8.15</b>	<b>35.71</b>	<b>2.71</b>	<b>11.86</b>
Acetaldehyde	68.75	22.83	0.0034	0.23	1.02	0.08	0.34
Benzene	68.75	22.83	0.0243	1.67	7.32	0.55	2.43
Ethylbenzene	68.75	22.83	0.0014	0.10	0.42	0.03	0.14
Formaldehyde	68.75	22.83	0.0066	0.45	1.99	0.15	0.66
Xylene	68.75	22.83	0.0001	0.01	0.03	0.00	0.01
Styrene	68.75	22.83	0.0180	1.24	5.42	0.41	1.80
Toluene	68.75	22.83	0.0044	0.30	1.32	0.10	0.44
<b>Total HAPs</b>				<b>4.00</b>	<b>17.53</b>	<b>1.33</b>	<b>5.82</b>

**METHODOLOGY**

Potential Emissions (lb/hr) = Maximum Foam Throughput (lbs/hr) \* Emission Factor (lb/lb)

Potential Emissions (tons/yr) = Potential Emissions (lbs/hr) \* 8,760 hrs/yr \* 1 ton/2000 lbs

Emission factors are from a General Motors stack test on a similar expendable pattern casting process.

**Appendix A: Emission Calculations**  
**HAP Emission Calculations**

**Company Name:** Casting Service  
**Address City IN Zip:** 300 Philadelphia Street, LaPorte, Indiana 46350  
**Operating Permit No.:** T091-6141  
**Plt ID:** 091-00018  
**Reviewer:** Trish Earls

Material	Density (Lb/Gal)	Pounds of Material Used (lbs/hr)	Weight % Xylene	Weight % Toluene	Weight % MEK	Weight % MIBK	Weight % TCE	Xylene Emissions (ton/yr)	Toluene Emissions (ton/yr)	MEK Emissions (ton/yr)	MIBK Emissions (ton/yr)	TCE Emissions (ton/yr)
Casting Painting (P14)												
E65A4	9.44	7.25	3.00%	7.00%	14.00%	0.00%	0.00%	0.95	2.22	4.45	0.00	0.00
MIBK	8.12	2.00	0.00%	0.00%	0.00%	100.00%	0.00%	0.00	0.00	0.00	8.76	0.00
Core and Mold Coating (P18)												
Water Based Core Wash	20.86	228.31	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00
Alcohol Based Core Wash	6.55	44.52	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00
Pattern and Core Boxes Coating (P20)												
No-Bake Parting Spray 605	13.51	9.87	0.00%	0.00%	0.00%	0.00%	99.00%	0.00	0.00	0.00	0.00	42.82

Total State Potential Emissions

<b>0.95</b>	<b>2.22</b>	<b>4.45</b>	<b>8.76</b>	<b>42.82</b>
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**METHODOLOGY**

Total HAPs: **59.20**

HAPS emission rate (tons/yr) = Density (lb/gal) \* Gal of Material (gal/unit) \* Maximum (unit/hr) \* Weight %

Appendix A: Grey Iron Foundry Operations  
VOC and HAP Emission Calculations - Mold and Core Making

Company Name: Casting Service  
Address City IN Zip: 300 Philadelphia Street, LaPorte, Indiana 46350  
Operating Permit No.: T091-6141  
Pit ID: 091-00018  
Reviewer: Trish Earls  
Date: 27-Aug-03

Material	Maximum Usage (lbs/hr)	Weight % VOC	Weight % Phenol	Weight % MDI	Weight % Formaldehyde	Weight % Xylene	Weight % Naphthalene	Weight % Dimethyl Phthalate	Weight % MEK	VOC Emissions (ton/yr)	Phenol Emissions (ton/yr)	MDI Emissions (ton/yr)	Formaldehyde Emissions (ton/yr)	Xylene Emissions (ton/yr)	Naphthalene Emissions (ton/yr)	Dimethyl Phthalate Emissions (ton/yr)	MEK Emissions (ton/yr)
<b>Phenolic No-bake and Furan No-Bake Mold and Core Making</b>																	
Phenolic No-bake Binder	1027.40	0.20%	15.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Furan No-Bake Binder	11.42	80.10%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	40.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phenolic and Furan No-bake Catalyst*	456.62	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Phenolic Urethane No-Bake Mold Making</b>																	
Part I Binder	25.68	0.09	7.50%	0.00%	0.17%	1.70%	0.00%	0.00%	0.00%	10.13	0.00	0.00	3.8E-03	0.11	0.00	0.00	0.00
Part II Binder	25.68	0.09	0.00%	0.00%	0.00%	0.00%	2.40%	0.00%	0.00%	10.13	0.00	0.00	0.00	0.00	0.16	0.00	0.00
Catalyst	5.71	55.00%	0.00%	0.00%	0.00%	0.00%	0.00%	42.00%	1.00%	13.75	0.00	0.00	0.00	0.00	0.00	10.50	0.25

83.05	0.00	0.00	0.00	0.11	0.16	10.50	0.25
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Total Potential Emissions:

11.02

Reduction Factors for Core Making

Pollutant	Phenolic No-Bake Binder Reduction Factors	Furan No-Bake Binder Reduction Factors	No-Bake Catalyst Reduction Factors	Phenolic Urethane No-Bake Part I Reduction Factors	Phenolic Urethane No-Bake Part II Reduction Factors
Phenol	0.00%	0.00%	N/A	0.00%	N/A
MDI	N/A	N/A	N/A	N/A	0.00%
Formaldehyde	2.00%	2.00%	N/A	2.00%	N/A
Xylene	N/A	N/A	N/A	5.85%	5.85%
Naphthalene	N/A	N/A	N/A	5.85%	5.85%
Methanol	50.00%	50.00%	50.00%	N/A	N/A
Sulfuric Acid	N/A	N/A	0.00%	N/A	N/A

METHODOLOGY

Max. Hourly Resin Usage Rate = Max. Annual Resin Usage rate (lbs/yr) / 8,760 (hrs/yr)

HAP Emissions from Resins = Max. Hourly Usage Rate \* % HAP \* Reduction Factor \* 8760 hrs/yr \* 1 ton/2000 lbs

Reduction factors obtained from the American Foundrymen's Society Publication entitled "Form R Reporting of Binder Chemicals used in Foundries", and refers to the weight percent of HAP that is emitted to the atmosphere.

\* Phenolic and Furan No-bake catalyst does not generate VOC emissions. Based on information provided by the manufacturer, only water is generated during the reaction.

**Appendix A**  
**Future Potential Emission Calculations**

**Company Name:** Casting Service  
**Address City IN Zip:** 300 Philadelphia Street, LaPorte, Indiana 46350  
**Operating Permit No.:** T091-6141  
**Plt ID:** 091-00018  
**Reviewer:** Trish Earls

Emission Unit	Limited Capacity (Tons/Year)	Emission Factor	Emission Factor (lb/ton)	Source of Emission Factor	Control Efficiency %	Capture Efficiency %	Future Potential Emissions After Controls						
							PM (Tons/Year)	PM10 (Tons/Year)	SOx (Tons/Year)	NOx (Tons/Year)	VOC (Tons/Year)	CO (Tons/Year)	Pb (Tons/Year)
Storage Piles (1% of Pile is Sand)	600	PM PM10	0.45 0.21	AP-42 AP-42	0.0% 0.0%	0.0% 0.0%	0.1355	0.0641	0.0000	0.0000	0.0000	0.0000	0.0000
Scrap & Charge Handling	60,000	PM PM10	0.6 0.36	AP-42 AP-42	99.5% 99.5%	95.0% 95.0%	0.9855	0.5913	0.0000	0.0000	0.0000	0.0000	0.0000
Scrap Preheater	17.80 mmBTU/hr	PM	1.9	AP-42	0.00%	0.00%	0.1481	0.5925	0.0468	7.7964	0.4288	6.5490	0.0000
		PM10	7.6	AP-42	0.00%	0.00%							
		SOx	0.6	AP-42	0.00%	0.00%							
		NOx	100	AP-42	0.00%	0.00%							
		VOC	5.5	AP-42	0.00%	0.00%							
		CO	84	AP-42	0.00%	0.00%							
Electric Induction Furnaces (F1 - F5)	60,000	PM	0.9	AP-42	99.5%	95.0%	1.4783	1.4126	0.0000	0.0000	0.0000	0.0000	0.0895
		PM10	0.86	AP-42	99.5%	95.0%							
		Pb	0.0545	AP-42	99.5%	95.0%							
Magnesium Wire Treatment	50,000	PM PM10	1.8 1.8	AP-42 AP-42	99.5% 99.5%	95.0% 95.0%	2.4638	2.4638	0.0000	0.0000	0.0000	0.0000	0.0000
Inoculation	60,000	PM	4.0	AP-42	0.0%	0.0%	120.0000	120.0000	0.0000	0.0000	0.1500	0.0000	0.0000
		PM10	4.0	AP-42	0.0%	0.0%							
		VOC	0.005	AP-42	0.0%	0.0%							
Sand Distribution System - Includes Mechanical Reclamation	250,000	PM PM10	3.6 0.54	AP-42 AP-42	99.00% 99.00%	98.0% 98.0%	13.4100	2.0115	0.0000	0.0000	0.0000	0.0000	0.0000
Sand Distribution System - Includes Thermal Reclamation	52,560	PM	3.6	AP-42	99.00%	98.0%	2.8193	0.4229	0.0000	0.0000	4.4860	0.0000	0.0000
		PM10	0.54	AP-42	99.00%	98.0%							
		VOC	0.1707	Manufacturer Data	0.00%	0.0%							
Sand Distribution System - Includes Core Sand Handling (1:0.28 mold to core sand)	70,000	PM PM10	3.6 0.54	AP-42 AP-42	99.50% 99.50%	96.0% 96.0%	5.6448	0.8467	0.0000	0.0000	0.0000	0.0000	0.0000
Pouring/Cooling	60,000	PM	4.20	AP-42	0.0%	0.0%	126.0000	61.8000	0.6000	0.3000	4.2000	0.0000	0.0000
		PM10	2.06	AP-42	0.0%	0.0%							
		SOx	0.02	AP-42	0.0%	0.0%							
		NOx	0.01	AP-42	0.0%	0.0%							
		VOC	0.14	AP-42	0.0%	0.0%							
Expendable Pattern Casting (foam)	200,000 pounds	VOC	0.1186 (lb/lb foam)	MSDS	0.0%	0.0%	0.0000	0.0000	0.0000	0.0000	11.8600	0.0000	0.0000
High Bay & Center Bay Shakeout	45,000	PM	3.2	AP-42	99.00%	95.0%	4.2840	2.9988	0.0000	0.0000	27.0000	0.0000	0.0000
		PM10	2.24	AP-42	99.00%	95.0%							
		VOC	1.2	AP-42	0.0%	0.0%							
Thermal Sand Reclamation - n.g usage	6.00 mmBTU/hr	PM	1.9	AP-42	0.00%	0.00%	0.0499	0.1997	0.0158	2.6280	0.1445	2.2075	0.0000
		PM10	7.6	AP-42	0.00%	0.00%							
		SOx	0.6	AP-42	0.00%	0.00%							
		NOx	100	AP-42	0.00%	0.00%							
		VOC	5.5	AP-42	0.00%	0.00%							
		CO	84	AP-42	0.00%	0.00%							
2 Small Casting Blasters & 1 BCP Blast	45,000	PM	17.0	AP-42	99.5%	99.0%	5.7184	0.5718	0.0000	0.0000	0.0000	0.0000	0.0000
		PM10	1.7	AP-42	99.5%	99.0%							
1 Room Blast	4,500	PM	17.0	AP-42	99.0%	99.0%	0.7612	0.0761	0.0000	0.0000	0.0000	0.0000	0.0000
		PM10	1.7	AP-42	99.0%	99.0%							
Cleaning/Grinding	45,000	PM	0.98	AP-42	99.0%	99.8%	0.2642	0.3073	0.0000	0.0000	0.0000	0.0000	0.0000
		PM10	1.1400	AP-42	99.0%	99.8%							
Casting Painting	31.76	PM	75%	transfer	98.0%	98.0%	0.1369	0.1369	0.0000	0.0000	26.6889	0.0000	0.0000
		PM10	75%	transfer	98.0%	98.0%							
		VOC	56.46%	MSDS	0.0%	0.0%							
		VOC	100%	MSDS	0.0%	0.0%							
Thinner	2.00 lb/hr	VOC											

Emission Unit	Limited Capacity (Tons/Year)	Emission Factor	Emission Factor (lb/ton)	Source of Emission Factor	Control Efficiency %	Capture Efficiency %	Future Potential Emissions After Controls						
							PM (Tons/Year)	PM10 (Tons/Year)	SOx (Tons/Year)	NOx (Tons/Year)	VOC (Tons/Year)	CO (Tons/Year)	Pb (Tons/Year)
Mold & Core Making (tons of sand)	320,000						0.0000	0.0000	0.0000	0.0000	211.5750	0.0000	0.0000
- Water Based Core Wash (pounds)	2,000,000	VOC	0.5%	MSDS	100.0%	50.0%							
- Alcohol Based Core Wash (pounds)	390,000	VOC	99%	MSDS	100.0%	50.0%							
- P. Nobake Binder (pounds)	9,000,000	VOC	0.20%	MSDS	0.0%	0.0%							
- P.U. Nobake Binder (0.09 lb VOC/lb Resin)	450,000	VOC	0.09	OCMA	0.0%	0.0%							
- Furan Nobake Binder (pounds)	100,000	VOC	80.1%	MSDS	0.0%	0.0%							
- Release Agent (pounds)	86,500	VOC	100%	MSDS	0.0%	0.0%							
Core Making Catalysts							0.0000	0.0000	0.7809	0.0000	13.7500	0.0000	0.0000
- P. & Furan No Bake Catalyst (pounds)*	4,000,000	VOC	0.00%	MSDS	0.0%	0.0%							
- P. U. No Bake Catalyst (pounds)	50,000	VOC	55.00%	MSDS	0.0%	0.0%							
- SO2 Catalyst (pounds)**	35,000	SOx	75%	MSDS	99.0%	95.0%							
Natural Gas Usage	57.97	PM	1.9	AP-42	0.00%	0.00%	0.4824	1.9297	0.1523	25.3909	1.3965	21.3283	0.0000
Emission Factor = pounds/mmcf	mmBTU/hr	PM10	7.6	AP-42	0.00%	0.00%							
		SOx	0.6	AP-42	0.00%	0.00%							
		NOx	100	AP-42	0.00%	0.00%							
		VOC	5.5	AP-42	0.00%	0.00%							
		CO	84	AP-42	0.00%	0.00%							
Paved Roads	5,475.00	PM	0.290	AP-42	0.0%	0.0%	0.7939	0.1560	0.0000	0.0000	0.0000	0.0000	0.0000
	VMT/year	PM10	0.057	AP-42	0.0%	0.0%							
Total of Emissions (tons/year)							285.58	196.58	1.60	36.12	301.68	30.08	0.09

\* Phenolic and Furan No-bake catalyst does not generate VOC emissions. Based on information provided by the manufacturer, only water is generated during the reaction.

\*\* Based on manufacturer's information, 25% of the SO2 catalyst is retained in the core. Therefore, only 75% of the SO2 is emitted as a worst case.

Example Calculation:

Scrap and Charge Handling = (Maximum Annual Capacity)(PM Emission Factor)(1 ton/2,000 pounds)

Scrap and Charge Handling = (80,400 tons/year)(0.6 pounds/ton PM Emission Factor)(1 ton/2,000 pounds) = 1.3206 tons of PM/year

**Appendix A**  
**Future Potential Minus Past Actual**

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**Company Name:** Casting Service  
**Address City IN Zip:** 300 Philadelphia Street, LaPorte, Indiana 46350  
**Operating Permit No.:** T091-6141  
**Plt ID:** 091-00018  
**Reviewer:** Trish Earls

Emission Unit	Future Potential Minus Past Actual Emissions After Controls						
	PM (Tons/Year)	PM10 (Tons/Year)	SOx (Tons/Year)	NOx (Tons/Year)	VOC (Tons/Year)	CO (Tons/Year)	Pb (Tons/Year)
Storage Piles	0.0302	0.0143	0.0000	0.0000	0.0000	0.0000	0.0000
Scrap & Charge Handling	0.2197	0.1318	0.0000	0.0000	0.0000	0.0000	0.0000
Scrap Preheater	0.0908	0.3633	0.0287	4.7806	0.2629	4.0157	0.0000
Electric Induction Furnaces (F1 - F5)	0.3296	0.3149	0.0000	0.0000	0.0000	0.0000	0.0199
Magnesium Wire Treatment	0.1663	0.1663	0.0000	0.0000	0.0000	0.0000	0.0000
Inoculation	26.7480	26.7480	0.0000	0.0000	0.0334	0.0000	0.0000
Sand Distribution System - Includes Mechanical Reclamation	4.4063	0.6609	0.0000	0.0000	0.0000	0.0000	0.0000
Sand Distribution System - Includes Thermal Reclamation	1.7287	0.2593	0.0000	0.0000	2.7507	0.0000	0.0000
Sand Distribution System - Includes Core Sand Handling (1:0.28 mold to core sand)	1.8548	0.2782	0.0000	0.0000	0.0000	0.0000	0.0000
Pouring/Cooling	28.0854	13.7752	0.1337	0.0669	0.9362	0.0000	0.0000
Expendable Pattern Casting (foam)	0.0000	0.0000	0.0000	0.0000	-1.9646	0.0000	0.0000
High Bay & Center Bay Shakeout	1.3899	0.9729	0.0000	0.0000	8.7600	0.0000	0.0000
Thermal Sand Reclamation - n.g usage	0.0306	0.1225	0.0097	1.6114	0.0886	1.3536	0.0000
2 Small Casting Blasters & 1 BCP Blast	1.8553	0.1855	0.0000	0.0000	0.0000	0.0000	0.0000
1 Room Blast	0.2470	0.0247	0.0000	0.0000	0.0000	0.0000	0.0000
Cleaning/Grinding	0.0857	0.0997	0.0000	0.0000	0.0000	0.0000	0.0000
Casting Painting	-1.3849	-1.3849	0.0000	0.0000	5.9819	0.0000	0.0000
Mold & Core Making (tons of sand) - Water Based Core Wash (pounds) - Alcohol Based Core Wash (pounds) - P. Nobake Binder (pounds) - P.U. Nobake Binder (0.09 lb VOC/lb Resin) - Furan Nobake Binder (pounds) - Release Agent (pounds)	0.0000	0.0000	0.0000	0.0000	87.8532	0.0000	0.0000
Core Making Catalysts - P. & Furan No Bake Catalyst (pounds) - P. U. No Bake Catalyst (pounds) - SO2 Catalyst (pounds)	0.0000	0.0000	0.7809	0.0000	-6.1673	0.0000	0.0000
Natural Gas Usage Emission Factor = pounds/mmcf	0.2958	1.1833	0.0934	15.5692	0.8563	13.0782	0.0000
Paved Roads	0.4875	0.0951	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total of Emissions (tons/year)</b>	<b>66.67</b>	<b>44.01</b>	<b>1.05</b>	<b>22.03</b>	<b>99.39</b>	<b>18.45</b>	<b>0.02</b>